<ART-047-0>

SERVICE MANUAL

AM/FM STEREO RECEIVER

SX-434

KCU, GN, FV

NOTE:

MODEL SX-434 COMES IN THREE VERSIONS DISTINGUISHED AS FOLLOWS:

Round label on rear panel	Voltage	Type
KCU	120V only	UL (U.S.A.) and CSA (Canada) approved.
GN	220V only	SEMCO (Sweden), NEMCO (Norway) and DEMCO (Denmark) approved.
FV	110V, 120V, 130V 220V, and 240V	General export model.

PIONEER®

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1. SPECIFICATIONS

SEMICONDUCTORS

FETs 1
ICs 3
Transistors 27
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AMPLIFIER SECTION

Continuous Power Output
40Hz~20kHz (Both
channels driven) . . . . . 15W + 15W (8Ω)
15W + 15W (4Ω)
1kHz (Both channels
driven) . . . . . 16W + 16W (8Ω)
18W + 18W (4Ω)
Harmonic Distortion
(40Hz~20kHz Continuous
Power Output) . . . . . Less than 0.8%
(1W + 1W, Power
Output) . . . . . Less than 0.1%
Intermodulation Distortion
(Continuous Power
Output) . . . . . Less than 0.8%
(1W + 1W, Power
Output) . . . . . Less than 0.1%
Power Bandwidth
(IHF, Both channels
driven) . . . . . 10Hz~70kHz (T.H.D. 0.8%)
Output Speaker . . . . . A, B, A + B, (4Ω~16Ω)
Headphone . . . . . 4Ω~16Ω
Damping Factor
(1kHz, 8Ω) . . . . . More than 25
Residual Hum & Noise
(8Ω, Pre & Power
amplifier . . . . . Less than 0.5mV
Input Sensitivity/Impedance
Phono 2.5mV/50kΩ
Phono Overload Level
(rms/p-p) 100mV/280mV
MIC 10mV/90kΩ
AUX 150mV/80kΩ
Tape PB 150mV/80kΩ
Tape PB
(DIN connector) 150mV/80kΩ
Output Level/Impedance
Tape REC 150mV
Tape REC
(DIN connector) 30mV/80kΩ
Frequency Response
Phono
(RIAA equalization) . . . 30Hz~15kHz ±1dB
AUX, Tape PB . . . . . 30Hz~25kHz ±1dB
Tone Control
BASS . . . . . +9dB, −8dB (100Hz)
TREBLE . . . . . +5dB, −7dB (10kHz)
Loudness Contour (Volume
control set at −40dB
position) . . . . . +10dB (100Hz), +5dB (10kHz)
Hum & Noise (IHF, short-circuited, A Network)
PHONO . . . . . More than 70dB
MIC . . . . . More than 65dB
AUX, Tape PB . . . . . More than 90dB

FM SECTION

Usable Sensitivity
(IHF) 1.9μV
Capture Ratio (IHF) . . . 1.0dB
Selectivity (IHF) 60dB
Signal-to-Noise Ratio . . . 70dB
Image Rejection
(98MHz) 60dB
IF Rejection (98MHz) . . 90dB
Spurious Rejection 75dB
AM Suppression 50dB
Harmonic Distortion:
MONO . . . . . Less than 0.2%
STEREO . . . . . Less than 0.4%
Frequency Response . . . 20Hz~15kHz $^{+0.2}_{-2.0}$ dB
50Hz~10kHz $^{+0.2}_{-0.5}$ dB
Stereo Separation:
1kHz . . . . . More than 40dB
50Hz~10kHz . . . . . More than 30dB
Sub Carrier Suppression . 40dB
Antenna Input . . . . . 300Ω Balanced
75Ω Unbalanced
Muting . . . . . ON−OFF

AM SECTION

Sensitivity (IHF,
Ferrite antenna) 30μV/m
(IHF, Ext. antenna) . . . 15μV
Selectivity 35dB
Signal-to-Noise Ratio . . . 50dB
Image Rejection 40dB
IF Rejection 50dB

MISCELLANEOUS

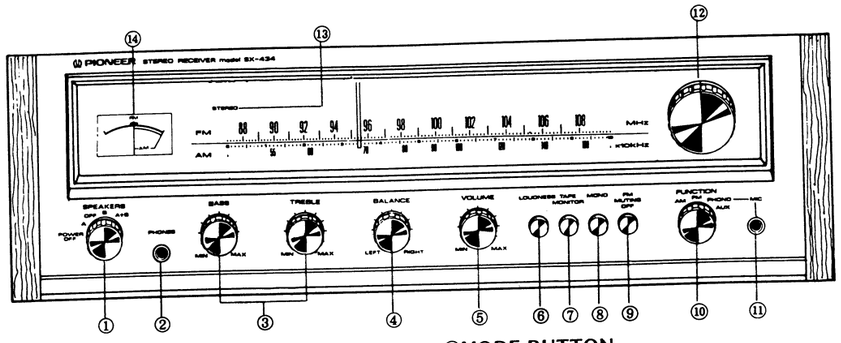
Power Requirements . . . AC 120V 60Hz, 220V 50/60Hz
or 110, 120, 130, 220 and 240V
(switchable) 50/60Hz
Power Consumption . . . 75W (UL approved model only)
110W Others
Dimensions . . . . . 430(W) x 140(H) x 347(D)mm
16-15/16 x 5-1/2 x 13-11/16 in.
Weight:
Without Package . . . . . 8.1kg (17 lb 13 oz)
With Package . . . . . 9.1kg (20 lb 1 oz)

FURNISHED PARTS

FM T-type Antenna . . . 1
Operating Instructions . . 1
Fuse 3A . . . . . 1 (5 line voltage model only)
Fuse 1.5A . . . . . 1 (5 line voltage model only)

NOTE:
Specifications and the design subject to possible modification without notice due to improvements.

2. FRONT PANEL FACILITIES



①SPEAKERS SWITCH

A combination of the power ON/OFF switch and the speaker system selector switch.

POWER OFF: Receiver off.

A: Speaker systems connected to speaker outputs A operate.

OFF: All speakers off. Use this position when listening through headphones.

B: Speaker systems connected to speaker outputs B operate.

A+B: Both speaker systems A and B operate.

②HEADPHONE JACK

Accepts stereo headphones.

A wide variety of quality headphones are available from Pioneer.

③BASS & TREBLE CONTROLS

Control bass and treble. Turning each control clockwise (counterclockwise) from the center position will boost (diminish) the tone.

④BALANCE CONTROL

Balances the relative sound volume of the left and right channel speakers. Clockwise rotation will reduce the volume from the left speaker, counterclockwise rotation will decrease the volume from the right speaker.

⑤VOLUME CONTROL

Governs both the volume of sound outputs from the speaker systems and from the headphones.

⑥LOUDNESS BUTTON

Depress when listening at low volume levels for proper sound balance relative to human ear sensitivity.

⑦TAPE MONITOR BUTTON

Depress this button to ON for monitoring a recording now in progress and for playback of recorded tapes, with the tape deck connected to the TAPE PB jacks and TAPE REC jacks or TAPE REC/PB connector.

⑧MODE BUTTON

Selects stereo or mono sound.

STEREO: Leave it undepressed.

MONO: Depress it for monophonic sound into which the left and right channel signals blend.

⑨FM MUTING BUTTON

Keep the button undepressed (ON) to make the FM MUTING circuit cancel out noise on unused bands (inter-station noise), but it also rejects very weak, faint FM stations. To receive such a station, depress the button to OFF.

⑩FUNCTION SWITCH

This selects the program source:

AM: AM reception.

FM: FM reception with automatic switching for either of stereo or mono programs.

PHONO/MIC: For playing records or using a micro-phone.

AUX: For playing component connected to the AUX terminals.

⑪MIC INPUT JACK

Accepts the plug of the microphone.

When a microphone is connected to the MIC jack, the turntable connected to PHONO input jacks cannot be used.

⑫TUNING KNOB

Rotate to tune in AM or FM reception.

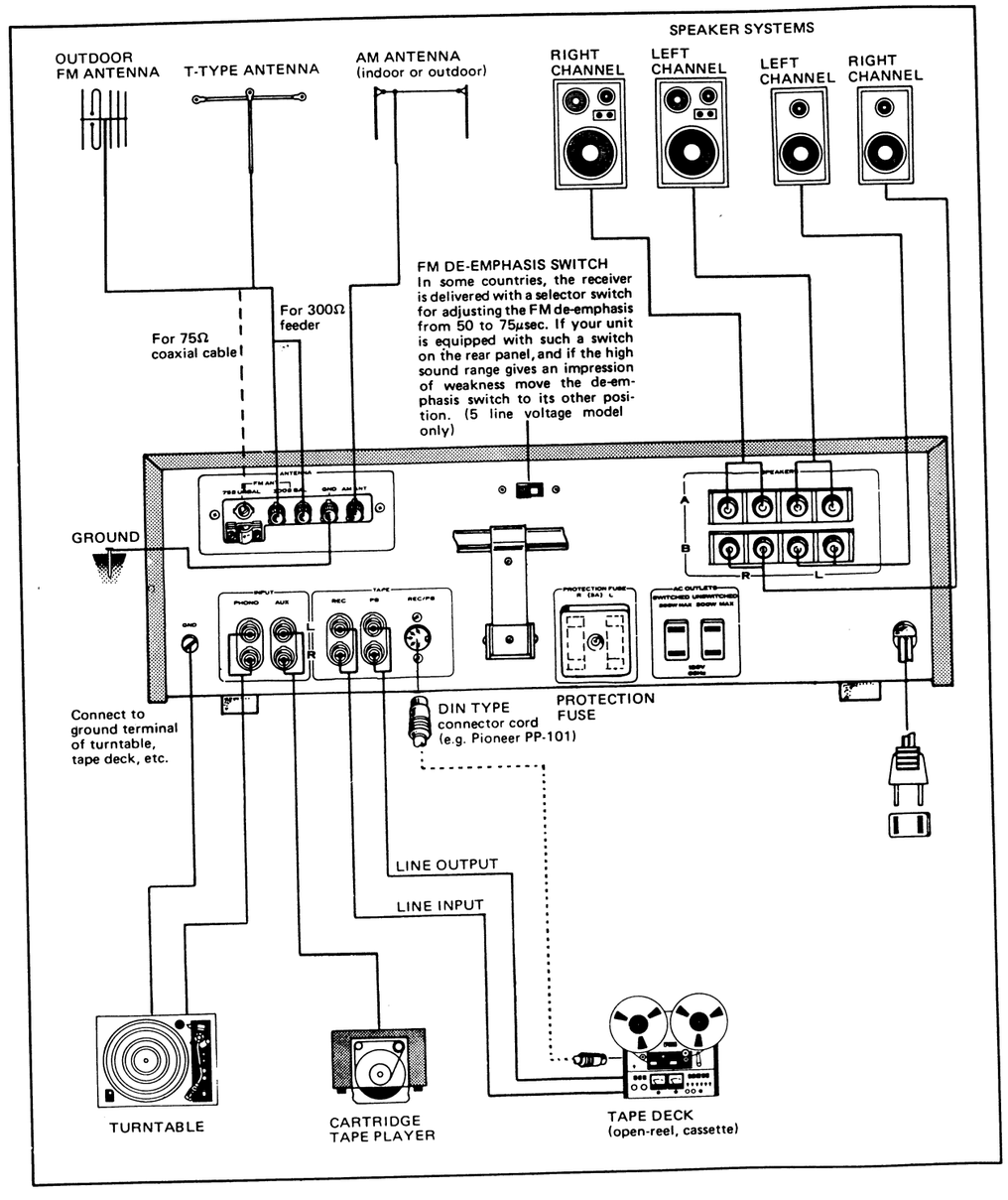
⑬FM STEREO INDICATOR

This indicator will light up when the broadcast is in stereo.

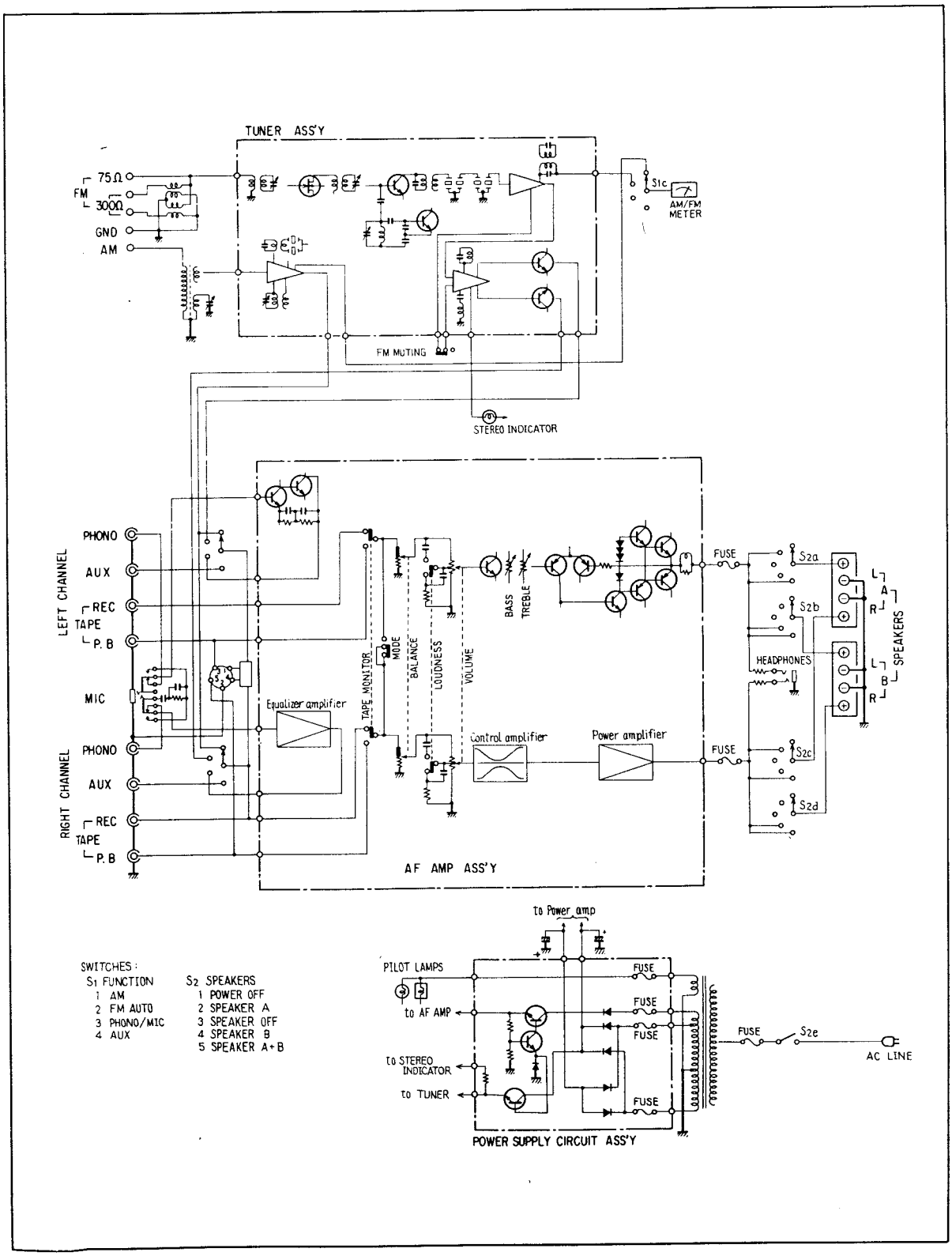
⑭AM/FM TUNING METER

When tuning FM stations, meter should indicate in the center "FM" area. When tuning AM stations, tune for maximum meter deflection toward the right of the scale.

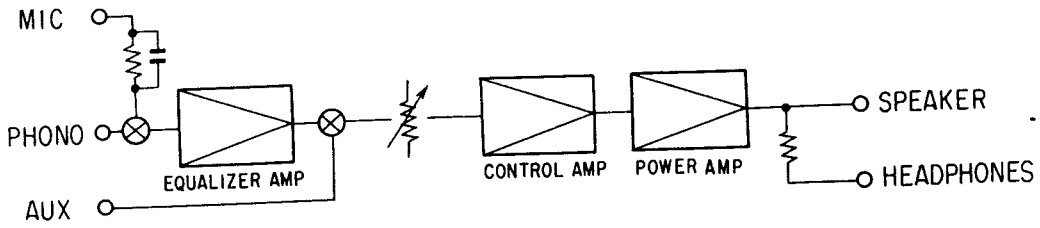
3. CONNECTION DIAGRAM

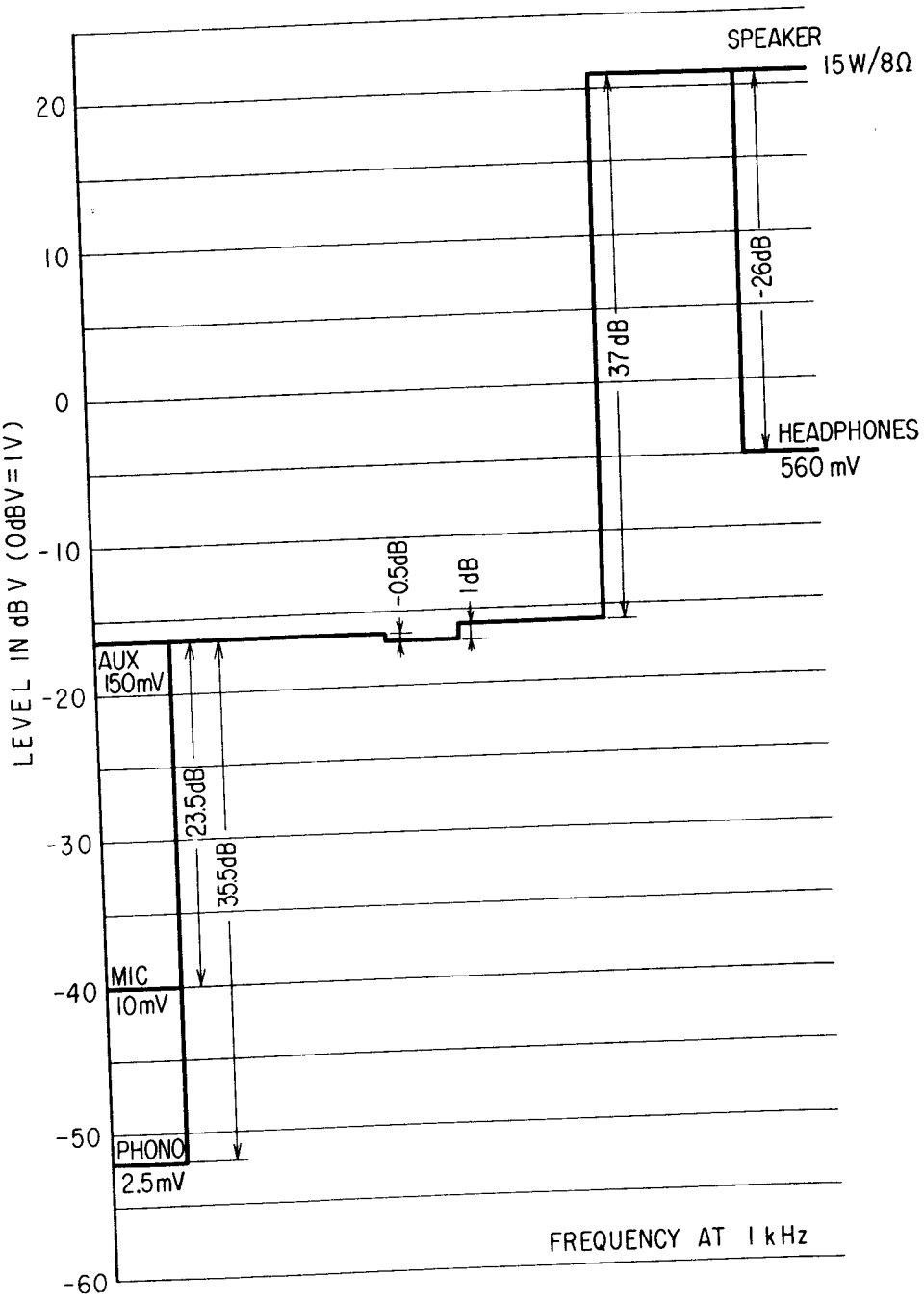

SPEAKER SYSTEMS
OUTDOOR FM ANTENNA
T-TYPE ANTENNA
AM ANTENNA (indoor or outdoor)
RIGHT CHANNEL
LEFT CHANNEL
LEFT CHANNEL
RIGHT CHANNEL
FM DE-EMPHASIS SWITCH
In some countries, the receiver is delivered with a selector switch for adjusting the FM de-emphasis from 50 to 75μsec. If your unit is equipped with such a switch on the rear panel, and if the high sound range gives an impression of weakness move the de-emphasis switch to its other position. (5 line voltage model only)
For 75Ω coaxial cable
For 300Ω feeder
GROUND
Connect to ground terminal of turntable, tape deck, etc.
DIN TYPE connector cord (e.g. Pioneer PP-101)
PROTECTION FUSE
LINE OUTPUT
LINE INPUT
TURNTABLE
CARTRIDGE TAPE PLAYER
TAPE DECK (open-reel, cassette)

4. BLOCK DIAGRAM



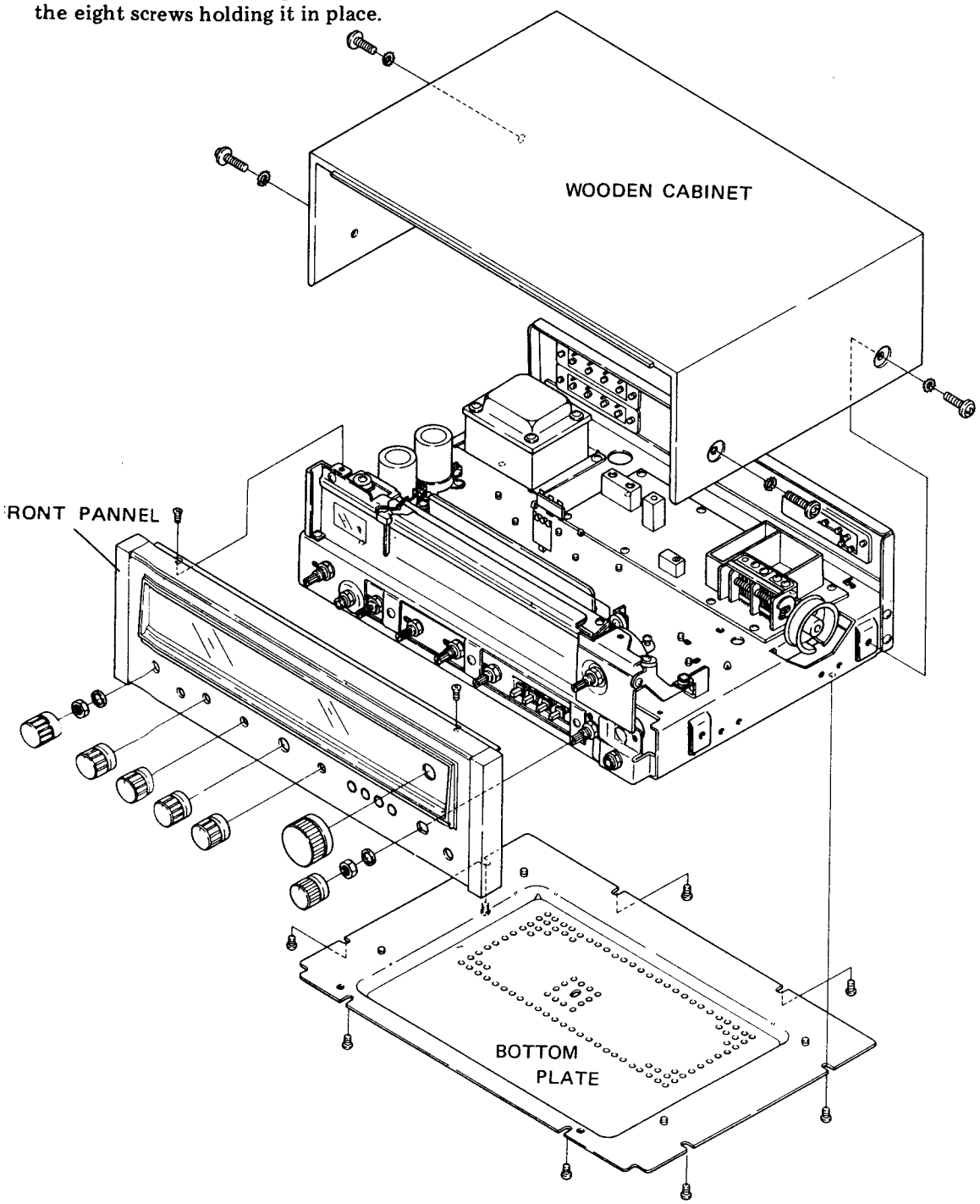
5. LEVEL DIAGRAM





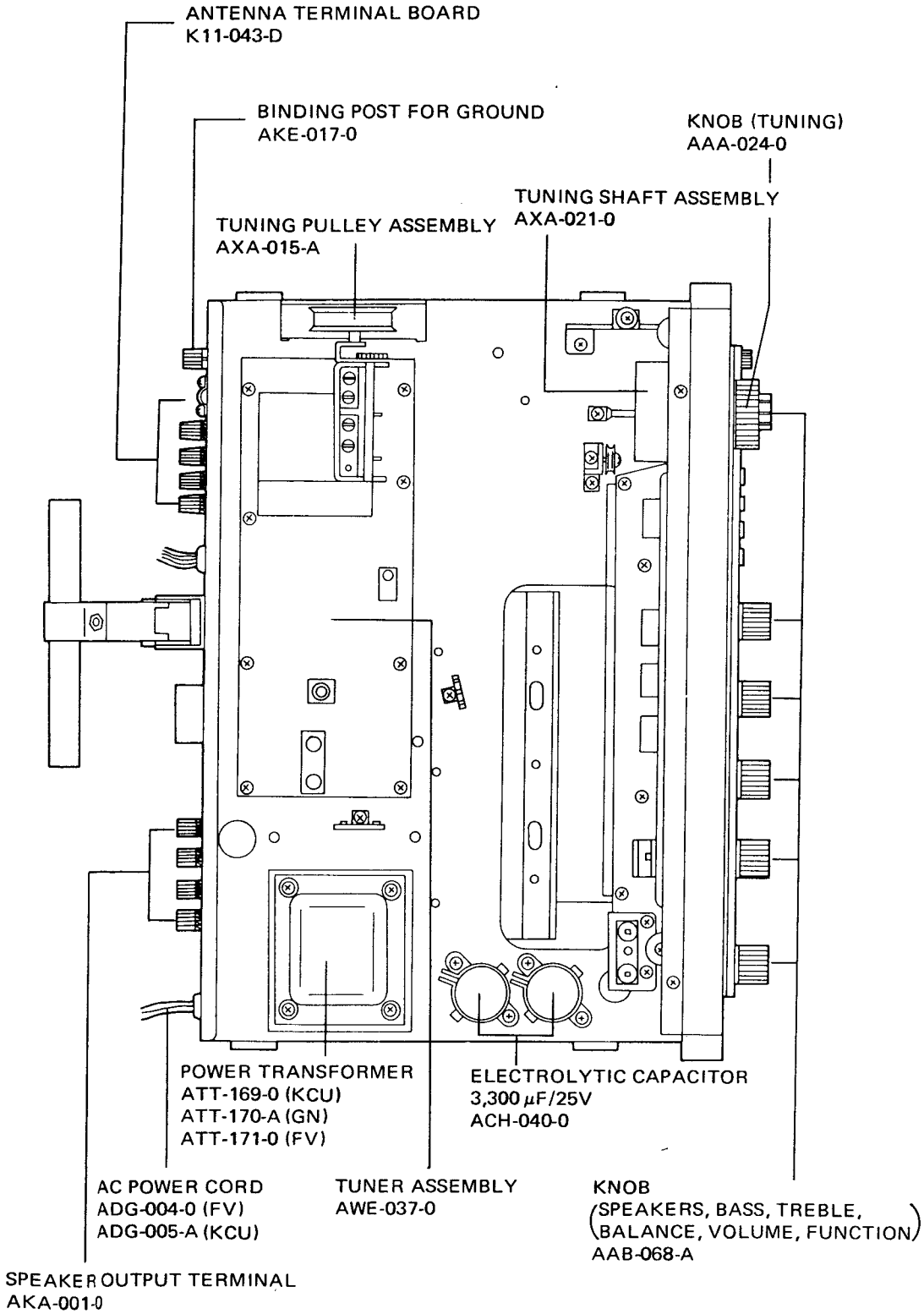
3. DISASSEMBLY

- To remove the wooden cabinet, first remove the two screws holding each side, then lift the back of the wooden cabinet upward.
- Pull off all knobs.
- Remove the two screws in the upper edge of the front panel and remove two nuts and washers from the FUNCTION and SPEAKERS shaft. Then pull the panel gently forward.
- To remove the bottom plate, first remove the eight screws holding it in place.

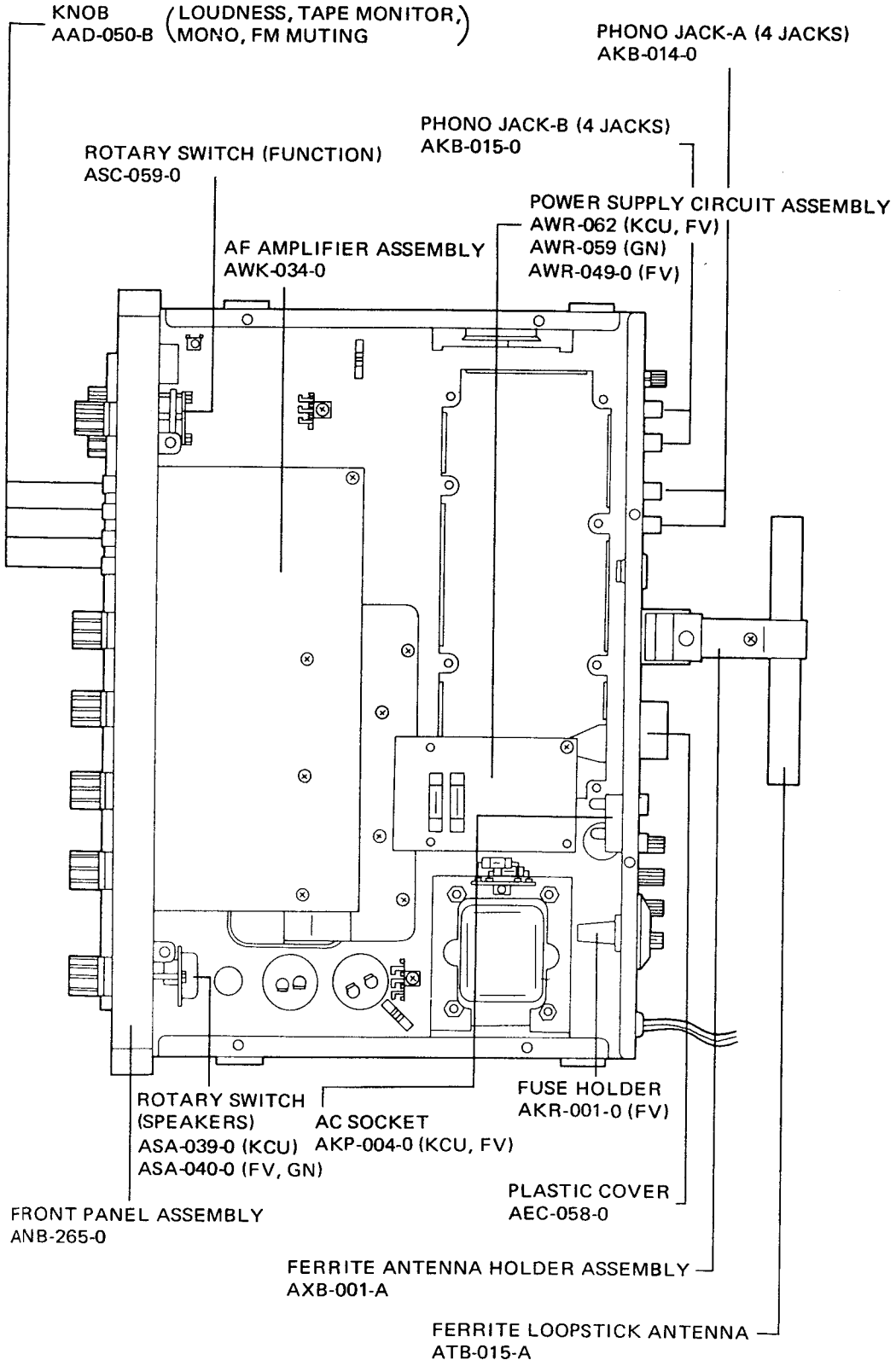


7. PARTS AND P.C. BOARD LOCATION

Top View

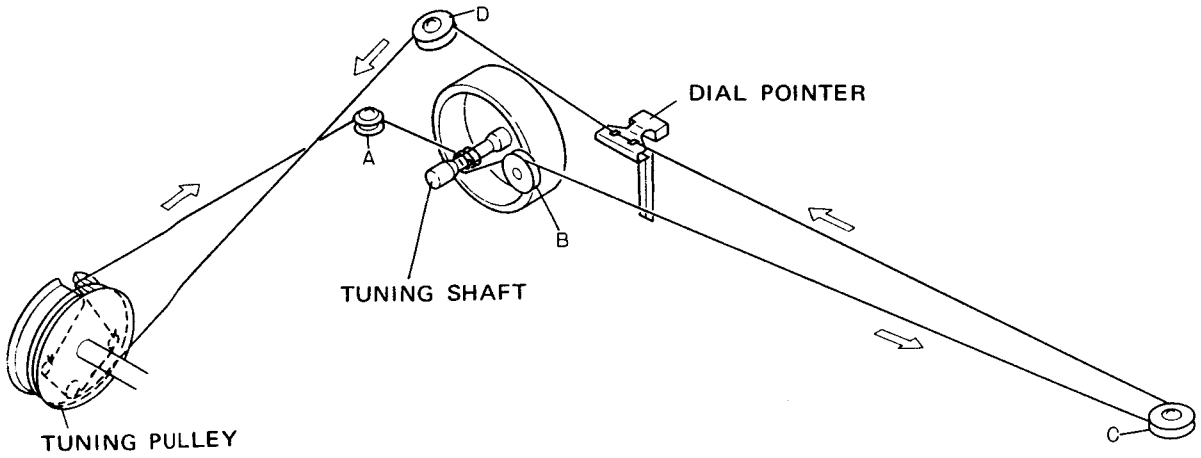


Bottom View


KNOB
AAD-050-B (LOUDNESS, TAPE MONITOR, MONO, FM MUTING)
PHONO JACK-A (4 JACKS)
AKB-014-0
PHONO JACK-B (4 JACKS)
AKB-015-0
ROTARY SWITCH (FUNCTION)
ASC-059-0
POWER SUPPLY CIRCUIT ASSEMBLY
AWR-062 (KCU, FV)
AWR-059 (GN)
AWR-049-0 (FV)
AF AMPLIFIER ASSEMBLY
AWK-034-0
ROTARY SWITCH (SPEAKERS)
ASA-039-0 (KCU)
ASA-040-0 (FV, GN)
AC SOCKET
AKP-004-0 (KCU, FV)
FUSE HOLDER
AKR-001-0 (FV)
PLASTIC COVER
AEC-058-0
FRONT PANEL ASSEMBLY
ANB-265-0
FERRITE ANTENNA HOLDER ASSEMBLY
AXB-001-A
FERRITE LOOPSTICK ANTENNA
ATB-015-A

8. DIAL CORD STRINGING

1. Turn the tuning capacitor so that its plates protrude as much as possible.
2. Tie one end of the string to the spring on the TUNING pulley (attached to the tuning capacitor).
3. Lead the string around pulley A, then wind it three turns around the TUNING shaft.
4. Lead the string around pulleys B, C and D, then wind it 2 turns around the TUNING pulley.
5. Now tie the other end of the string to the spring on the TUNING pulley. Turn the TUNING shaft and check for proper function. Then trim the ends of the string.
6. Turn the TUNING shaft until the plates of the variable are all the way in. Move the dial pointer to the right-end "0" point on the dial and fasten it to the string in that position.



). ALIGNMENT PROCEDURE

.ligning The FM Section

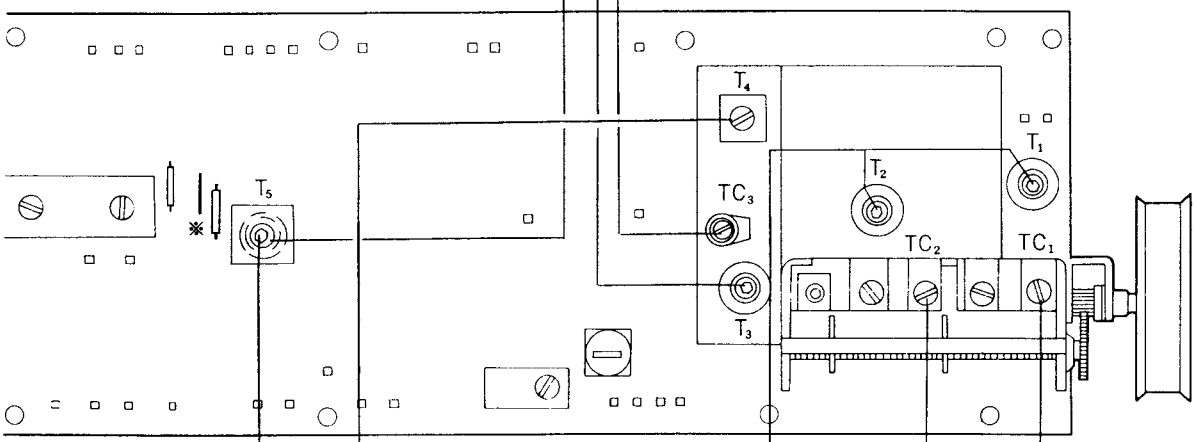
SX-434 control settings
Set the controls (knobs and switches) of the SX-434 as follows:
FUNCTION: FM
FM MUTING: OFF
SPEAKERS: OFF (POWER ON)

Connections between Test Equipment and the SX-434

- The output from an FM signal generator should be connected to the 300Ω antenna terminals of the SX-434.
- A distortion meter should be connected to the TAPE REC terminal jacks on the SX-434.
- An AC millivolt meter should be connected to the TAPE REC terminal jacks on the SX-434 in parallel with the distortion meter.

3. Set both the FM signal generator and the SX-434 to indicate 90 MHz.
4. Set the FM signal generator output level to 100dB, modulated at 400Hz, with a deviation of 75kHz.
5. Turn the lower core and adjust so that the AM/FM meter needle is centered.
6. Set the FM signal generator output level to 10dB, modulated at 400Hz, with a frequency deviation of ±75kHz.
7. Adjust for maximum output at 87.4MHz.
8. Adjust for maximum output at 106MHz.

TUNER ASSEMBLY (AWE-037)



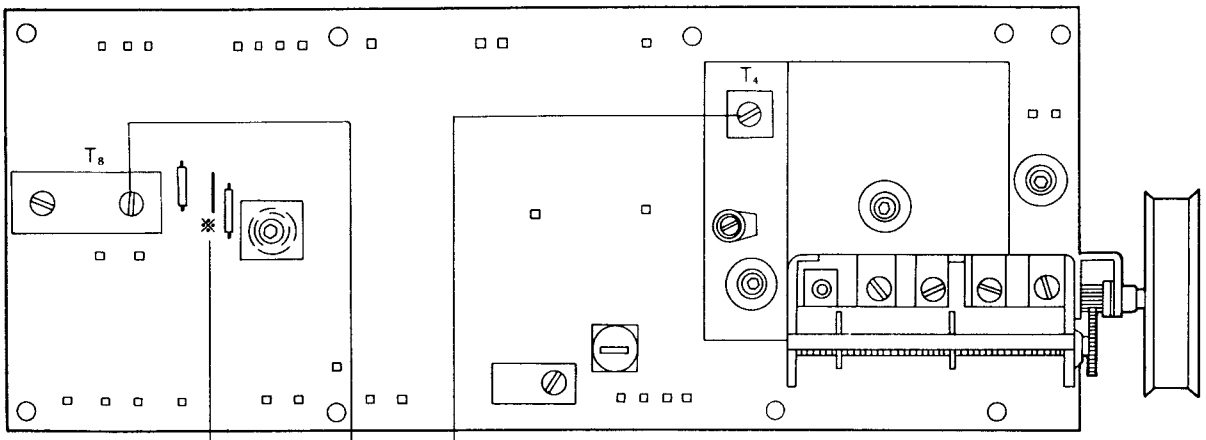
9. Adjust for maximum output at 90MHz.
10. Adjust for maximum output at 106MHz. Steps 7~10 above should be repeated several times in succession, until no further significant improvement is obtained.
11. Adjust for maximum output at both 90MHz and 106MHz.
12. Turn the FM signal generator output level down to minimum.
13. Turn the lower core and adjust so that the AM/FM meter needle is centered.
14. Set both the FM signal generator and the SX-434 to indicate 98MHz.
15. Turn the upper core and adjust so that the distortion is at a minimum. Steps 12~15 above should be repeated several times in succession, until no further significant improvement is obtained.

Aligning The FM MPX Section

Notes:
This set of adjustments should not be carried out until the alignment of the FM section(1~15onP-13)has been completed. The multiplex signal generator should be connected to the external modulator terminals of the FM signal generator.

1. SX-434 Control Settings
   Set the controls (knobs and switches) of the SX-434 as follows:
   FUNCTION: FM
   FM MUTING: OFF
   SPEAKERS: OFF (POWER ON)
2. Connections between the Test Equipment and the SX-434.
   - The output from the FM signal generator should be connected to the 300Ω antenna terminals of the SX-434.
   - A distortion meter should be connected to the TAPE REC terminals.
   - An AC millivolt meter should be connected to the TAPE REC terminals in parallel with the distortion meter (with changeover possible from L to R channels).

TUNER ASSEMBLY (AWE-037)

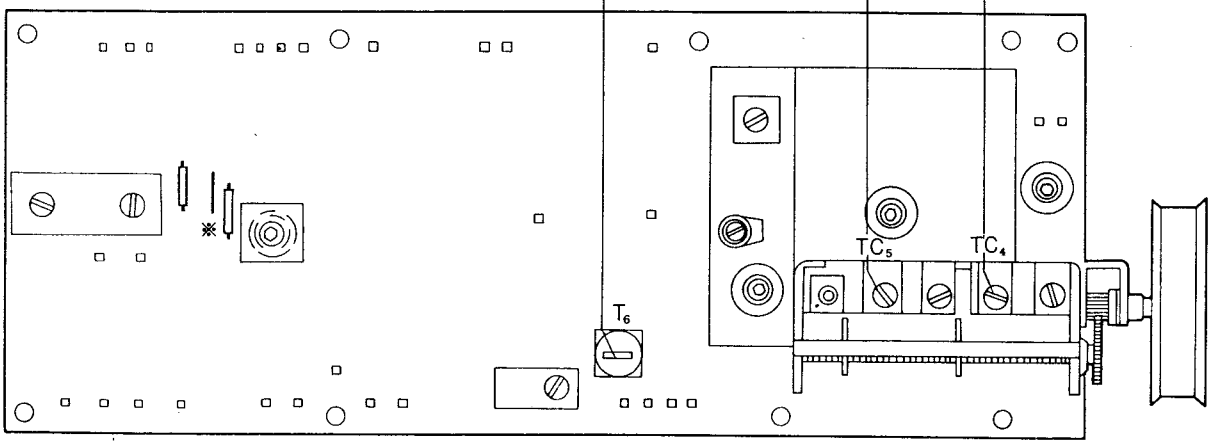


3. Multiplex Signal Generator Modulation
   L+R (1kHz): 67.5kHz deviation
   PILOT (19kHz): 7.5kHz deviation
4. Set the FM signal generator output level to 60dB.
5. Apply signal generator modulation to the left channel only.
6. Adjust for the maximum output.
7. Adjust for the minimum distortion.
8. Set the Multiplex signal generator modulation to the L or R channel.
9. Check the separation.
10. Cut the jumper lead, if the stereo separation under 35dB.

Aligning The AM Section

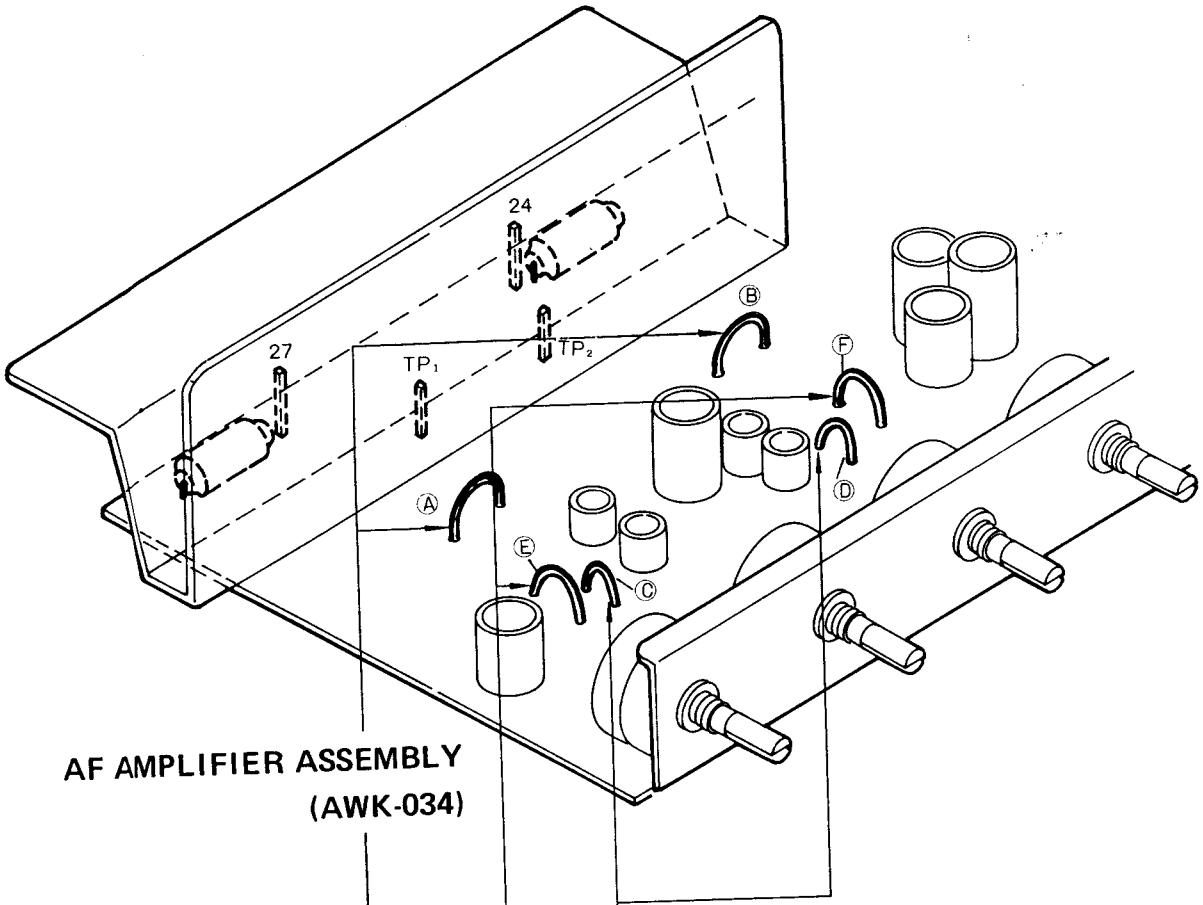
1. SX-434 Control Settings
   Set the controls (knob and switch) of the SX-434 as follows:
   FUNCTION: AM
   SPEAKERS: OFF (POWER ON)
2. Connections between Test Equipment and the SX-434
   - Connect the AM signal generator to the AM antenna terminals.
   - Connect the AC millivolt meter to the TAPE REC terminal jacks.
3. Set the AM signal generator to 30% modulation at 400Hz.
4. Set the AM signal generator output to 30dB at 600kHz.
5. Adjust for maximum output (carry out the ferrite loopstick antenna core adjustment at the same time).
6. Adjust for maximum output with the frequency set at 1,400kHz. Adjustments 4~6 above should be repeated several times until no further significant improvement is obtained.

TUNER ASSEMBLY (AWE-037)



Aligning The Power Amplifier

1. Nothing should be connected to the input jacks of the SX-434, and an 8Ω dummy resistor should be connected across the speaker terminals.
2. A DC millivolt meter should be connected across between terminal number 27 (left channel, 24: for right channel) and earth.



AF AMPLIFIER ASSEMBLY
(AWK-034)

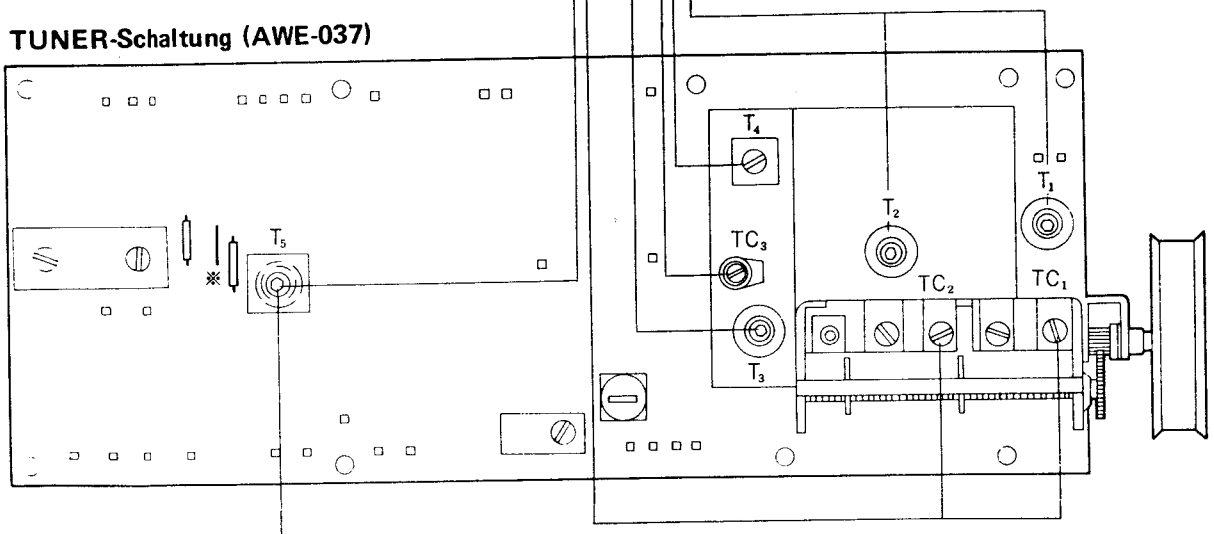
3. Cut the jumper lead C(D), if the positive potential is activated.
4. Cut the jumper lead E(F), if the negative potential is activated.
5. The DC millivolt meter should be connected between terminals number TP_1 (TP_2) and 27 (24).
6. Cut the jumper lead A(B), if the voltage less than 5mV.

ABGLEICHVERFAHREN

Abgleichen Des FM-Teils

1. Regeleinstellungen am SX-434
   Die Steuerelemente (Knöpfe und Schalter) des SX-434 sind wie folgt einzustellen:
   FUNCTION (Betriebsartenschalter):
   FM (UKW)
   FM MUTING (FM-Stummabstimmung):
   OFF (Aus)
   SPEAKERS (Lautsprecher):
   OFF (Aus), POWER ON (Strom eingeschaltet)
2. Schaltungen zwischen Prüfsatz und dem SX-434
   — Der Ausgang von einem FM-Prüfsender ist mit den 300-Ohm-Anschlüssen des SX-434 zu verbinden.
   — Ein Klirrfaktormeßgerät ist mit den Anschlußbuchsen TAPE REC (Band/Aufnahme) des SX-434 zu verbinden.
   — Ein Millivolt-Wechselspannungsmesser ist parallel zum Klirrfaktormeßgerät mit den Anschlußbuchsen TAPE REC (Band/Aufnahme) des SX-434 zu verbinden.
3. Der FM-Prüfsender und der SX-434 sind beide auf eine Anzeige von 98 MHz einzustellen.
4. Der Ausgang des FM-Prüfsenders ist, moduliert bei 400 Hz bei einer Abweichung von ±75 kHz, auf 100 dB einzustellen.
5. Der untere Kern ist zu drehen und so einzustellen, daß die Nadel des Abstimm-Meters zentriert ist.
6. Der Ausgangspegel des FM-Prüfsenders ist, moduliert bei 400 Hz bei einer Frequenzabweichung von ±75 kHz, auf 10 dB einzustellen.
7. Es ist auf maximalen Ausgang bei 87.4 MHz einzustellen.
8. Es ist auf maximalen Ausgang bei 106 MHz einzustellen.
9. Es ist auf maximalen Ausgang bei 90 MHz einzustellen.
10. Es ist auf maximalen Ausgang bei 106 MHz einzustellen.
    Obige Schritte 7-10 sind mehrmals nacheinander zu wiederholen, bis keine weiteremerkliche Verbesserung erzielt wird.
11. Es ist auf maximalen Ausgang bei 90 MHz und 106 MHz einzustellen.
12. Der Ausgangspegel des FM-Prüfsenders ist auf minimale Einstellung herunterzudrehen.

TUNER-Schaltung (AWE-037)



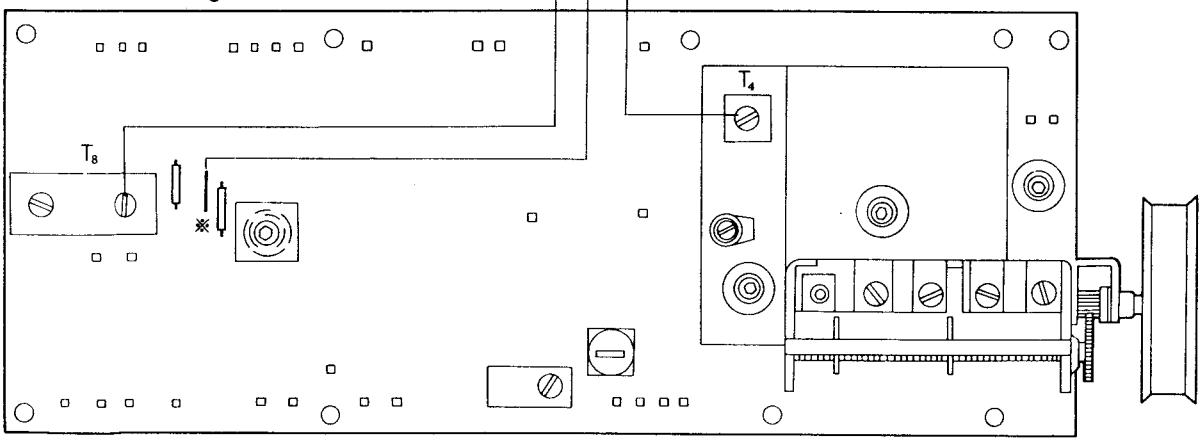
13. Der untere Kern ist zu drehen und so einzustellen, daß die Nadel des Abstimm-Meters Zentriert ist.
14. Der FM-Prüfsender und der SX-434 sind beide auf eine Anzeige von 98 MHz einzustellen.
15. Der obere Kern ist zu drehen und so einzustellen, daß die Verzerrung minimal wird.
    Die obigen Schritte 12-15 sollten mehrmals nacheinander wiederholt werden, bis keine weitere merkliche Verbesserung erzielt wird.

Abgleichen Des FM-MPX-Teils

Zur Beachtung: Die folgenden Einstellschritte sollten nicht vor Beendigung des Abgleichs des FM-Teils (siehe oben 1 – 15) durchgeführt werden.
Der Multiplex-Prüfsender ist mit den Außenmodulatoranschlüssen des FM-Prüfsenders zu verbinden.

1. Regeleinstellungen am SX-434
   Die Steuerelemente (Knöpfe und Schalter) des SX-434 sind wie folgt einzustellen:
   FUNCTION (Betriebsartenschalter):
   FM (UKW)
   FM MUTING (FM-Stummabstimmung):
   OFF (Aus)
   SPEAKERS (Lautsprecher):
   OFF (Aus), POWER ON (Strom eingeschaltet)
2. Schaltungen zwischen Prüfsatz und dem SX-434.
   – Der Ausgang vom FM-Prüfsender ist mit den 300-Ohm-Antennenanschlüssen des SX-434 zu verbinden.
   – Ein Klirrfaktormeßgerät ist mit den Anschlußbuchsen TAPE REC (Band/Aufnahme) zu verbinden.
   – Ein Millivolt-Wechselspannungsmesser ist parallel zum Klirrfaktormeßgerät mit den Anschlußbuchsen TAPE REC (Band/Aufnahme) zu verbinden (mit Umschalt-Möglichkeit von den Kanälen L auf R).
3. Modulation des Multiplex-Prüfsenders
   L + R (1 kHz) : Abweichung von 67,5kHz
   PILOT (19 kHz): Abweichung von 7,5kHz
4. Der FM-Prüfsender ist auf einen Pegelausgang von 60 dB einzustellen.
5. Die Prüfsender-Modulation ist nur auf den linken kanal anzuwenden.
6. Es ist auf einen maximalen Ausgang einzustellen.
7. Es ist auf eine minimale Verzerrung einzustellen.
8. Die Multiplex-Prüfsender-Modulation ist auf den L-oder R-Kanal anzuwenden.
9. Die Trennung ist zu überprüfen.
10. Der Schaltdraht ist zu trennen, wenn die Stereo-Trennung unter 35 dB liegt.

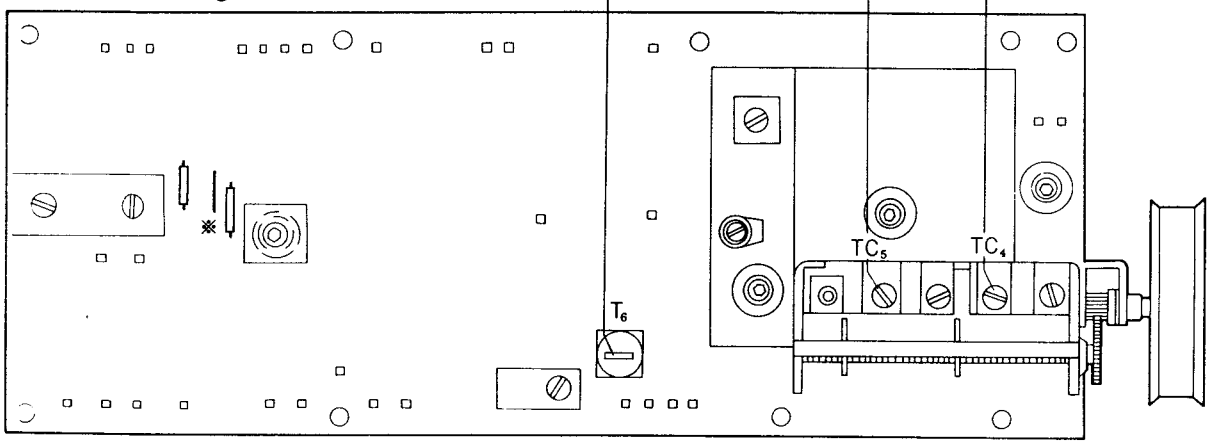
TUNER-Schaltung (AWE-037)



Abgleichen Des AM-Teils

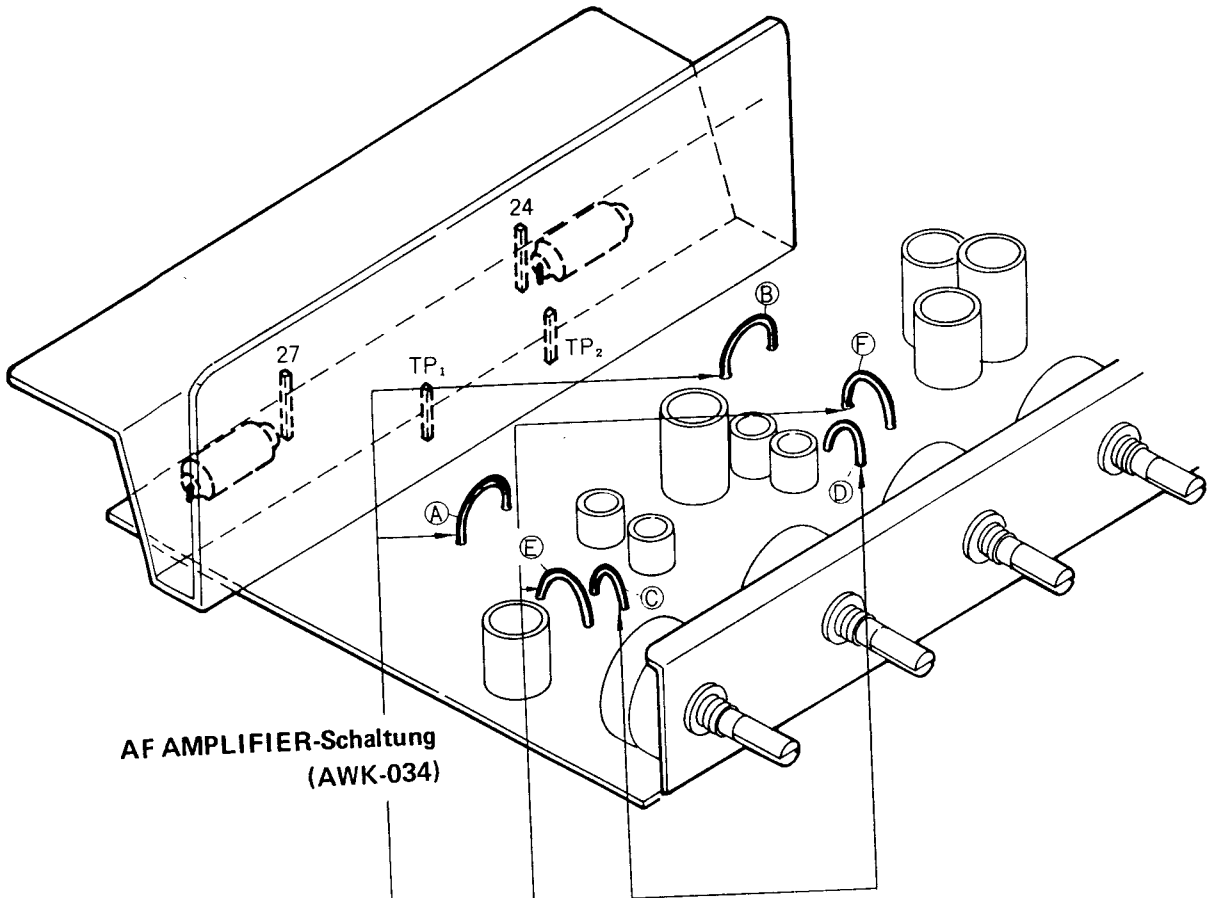
1. Regeleinstellungen am SX-434
   Die Steuerelemente (Knöpfe und Schalter) des SX-434 sind wie folgt einzustellen:
   FUNCTION (Betriebsartenschalter):
   AM (MW)
   SPEAKERS (Lautsprecher):
   OFF (Aus), POWER ON (Strom eingeschaltet)
2. Schaltungen zwischen Prüfsatz und dem SX-434
   — Der AM-Prüfsender ist mit den AM-Antennenanschlüssen zu verbinden.
   — Der Millivolt-Wechselspannungsmesser ist mit den Anschlußbuchsen TAPE REC (Band/Aufnahme) zu verbinden.
3. Der AM-Prüfsender ist auf eine Modulation von 30 % bei 400 Hz einzustellen.
4. Der Ausgang des AM-Prüfsenders ist auf 30 dB bei 600 kHz einzustellen.
5. Es ist der maximale Ausgang (bei gleichzeitiger Einstellung des Ferritstabantennenkerns) einzustellen.
6. Es ist der maximale Ausgang bei einer Frequenzeinstellung auf 1400 kHz einzustellen. Die obigen Einstellungen 4 — 6 sind mehrmals zu wiederholen, bis keine weitere merkliche Verbesserung erzielt wird.

TUNER-Schaltung (AWE-037)



Abgieichen Der Endverstärkerstufe

1. Es ist nichts an die Eingangsbuchsen des SX-434 anzuschließen; ein künstlicher Widerstand von 8Ω ist über die Lautsprecheranschlüsse anzulegen.
2. Ein Millivolt-Gleichspannungsmesser ist zwischen Anschluß 27 (linker Kanal, 24: für den rechten Kanal) und Erde zu schalten.



AF AMPLIFIER-Schaltung (AWK-034)

3. Der Schaltdraht C (D) ist zu trennen, wenn das positive Potential aktiviert wird.
4. Der Schaltdraht E (F) ist zu trennen, wenn das negative Potential aktiviert wird.
5. Der Millivolt-Gleichspannungsmesser ist zwischen die Anschlüsse TP_1 (TP_2) und 27 (24) zu schalten.
6. Der Schaltdraht A (B) ist zu trennen, wenn die Spannung weniger als 5 mV beträgt.

10. EXPLODED VIEW AND PARTS LIST

NOTE:
Parts number is subject to change for the purpose of improvement with notice of a service bulletin.
Service bulletin will be furnished whenever necessary and you are requested to amend parts number in this manual according to the instructions.

Parts List of Exploded View

NOTICE: Any parts asterisked (*) are subject to being not supplied.

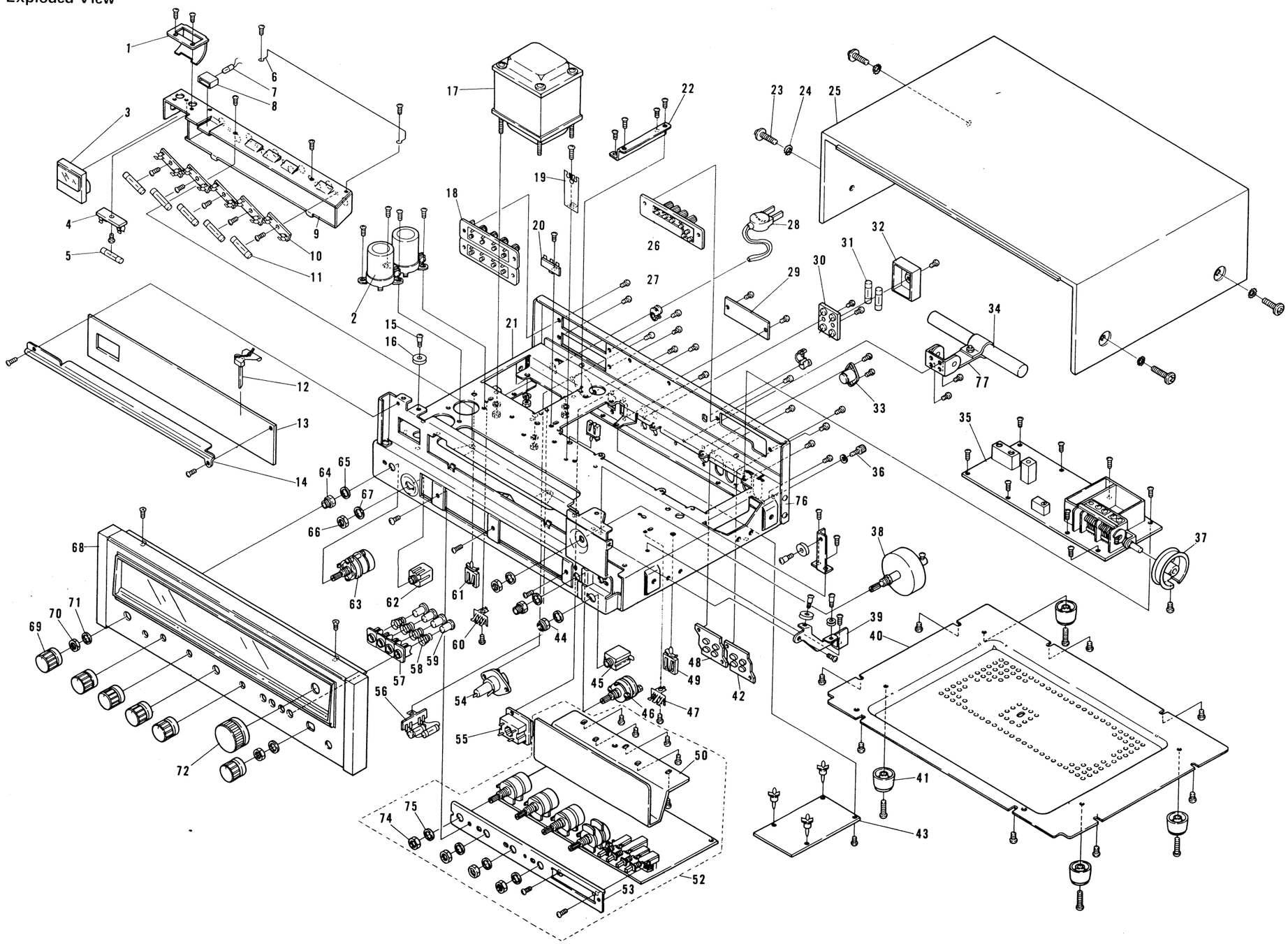
Key No.	Description	Part No.	
1*	Meter-held metal	ANK-017-A	
2	Electrolytic capacitor 3,300μF, 25V	ACH-040-0	
3	Tuning meter	AAW-026-A	
4	Pilot lamp socket	AKK-002-0	
5	Pilot lamp 8V, 0.3A (meter)	E22-032-0	
6*	Wire supporter	M46-138-0	
7	Pilot lamp 6V, 30mA (stereo indicator)	AEL-017-0	
8	Rubber bracket	AEB-014-A	
9*	Lamp box	ANH-078-B	
10	Pilot lamp socket	AKK-002-0	
11	Pilot lamp 8V, 0.3A (dial scale)	E22-032-0	
12	Dial pointer	AAF-028-0	
13	Dial scale	AAG-076-A	
14*	Dial scale-held metal	ANG-096-0	
15*	Pulley shaft	M49-025-E	
16	Pulley	AEC-101-0	
17	Power transformer	ATT-169-0	KCU
	Power transformer	ATT-170-A	GN
	Power transformer	ATT-171-0	FV
18	Speaker output terminal	AKA-001-0	
19*	Wire supporter	M45-105-C	
20	Terminal strip (2P)	AKC-015-0	
21*	Chassis	ANA-062-B	
22*	Reinforced metal	ANF-204-0	
23	Screw M4x15	ABA-010-A	
24	Washer	B21-011-A	
25	Wooden cabinet	AMM-031-A	
26	Antenna terminal board	K11-043-D	
27	AC cord grommet	AEC-079-0	KCU, FV
	Connector (AC power)	AKP-008-0	GN
28	AC power cord	ADG-005-A	KCU
	AC power cord	ADG-004-0	FV
29*	Model name plate	AAL-211-0	KCU
	Model name plate	AAL-212-0	GN
	Model name plate	AAL-213-0	FV
30	Fuse holder (protection)	AKR-011-0	KCU, FV
	Fuse holder (protection)	AKR-017-0	GN
31	Fuse 3A (protection)	E21-036-A	KCU, FV
	Fuse 3.15A (protection)	AEK-042-0	GN
32	Plastic cover	AEC-058-0	
33	Connector (DIN type 5P)	K93-003-B	
34	Ferrite loopstick antenna	ATB-015-A	
35	Tuner assembly	AWE-037-0	

NOTICE: Any parts asterisked (*) are subject to being not supplied.

Key No.	Description	Part No.	
36	Binding post for ground	AKE-017-0	
37	Tuning pulley assembly	AXA-015-A	
38	Tuning shaft assembly	AXA-021-0	
39*	Pulley-held metal	ANG-043-0	
40*	Bottom plate	ANE-016-C	
41	Foot	AEC-061-A	
42	Phono jack-B (4 jacks)	AKB-015-0	
43	Power supply circuit assembly	AWR-062-0	KCU, FV
	Power supply circuit assembly	AWR-059-0	GN
	Power supply circuit assembly	AWR-049-0	FV
44	Nut (insulator)	B71-031-0	
45	Phone jack (Microphone)	K72-020-0	
46	Rotary switch (Function)	ASC-059-0	
47	Ground terminal strip (4P)	K13-047-0	
48	Phono jack-A (4 jacks)	AKB-014-0	
49*	Wire clip	AEC-004-0	
50*	Heat sink	ANH-192-0	
51			
52	AF amplifier assembly	AWK-034-0	
53*	P.C. board holder	ANF-202-0	
54	Fuse holder (AC power)	AKR-001-0	FV
55	AC socket	AKP-004-0	KCU, FV
56	Terminal strip (4P)	AKC-016-0	
57	Spacer	AEC-090-0	
58	Spring	AEF-002-C	
59	Knob (FM muting, Mono, Tape monitor, Loudness)	AAD-050-B	
60	Ground terminal strip (4P)	K13-047-0	
61*	Wire clip	AEC-004-0	
62	Phone jack (Headphone)	K72-026-0	
63	Rotary switch (Power)	ASA-039-0	KCU
	Rotary switch (Power)	ASA-040-0	FV, GN
64	Special nut	ALA-008-0	
65	Washer 1t	M45-086-A	
66	Nut 9ϕ	B71-004-0	
67	Washer 1t	M45-086-A	
68	Front panel assembly	ANB-265-0	
69	Knob (Speaker, Bass, Treble, Balance, Volume, Function)	AAB-068-A	
70	Nut 9ϕ	B71-004-0	
71	Washer 1t	M45-086-A	
72	Knob (Tuning)	AAA-024-0	
73			
74	Nut 9ϕ	B71-004-0	
75	Spacer 1t	M45-086-A	
76*	Rear panel	ANC-108-A	KCU
	Rear panel	ANC-109-A	GN
	Rear panel	ANC-110-A	FV
77	Ferrite antenna holder assembly	AXB-001-A	

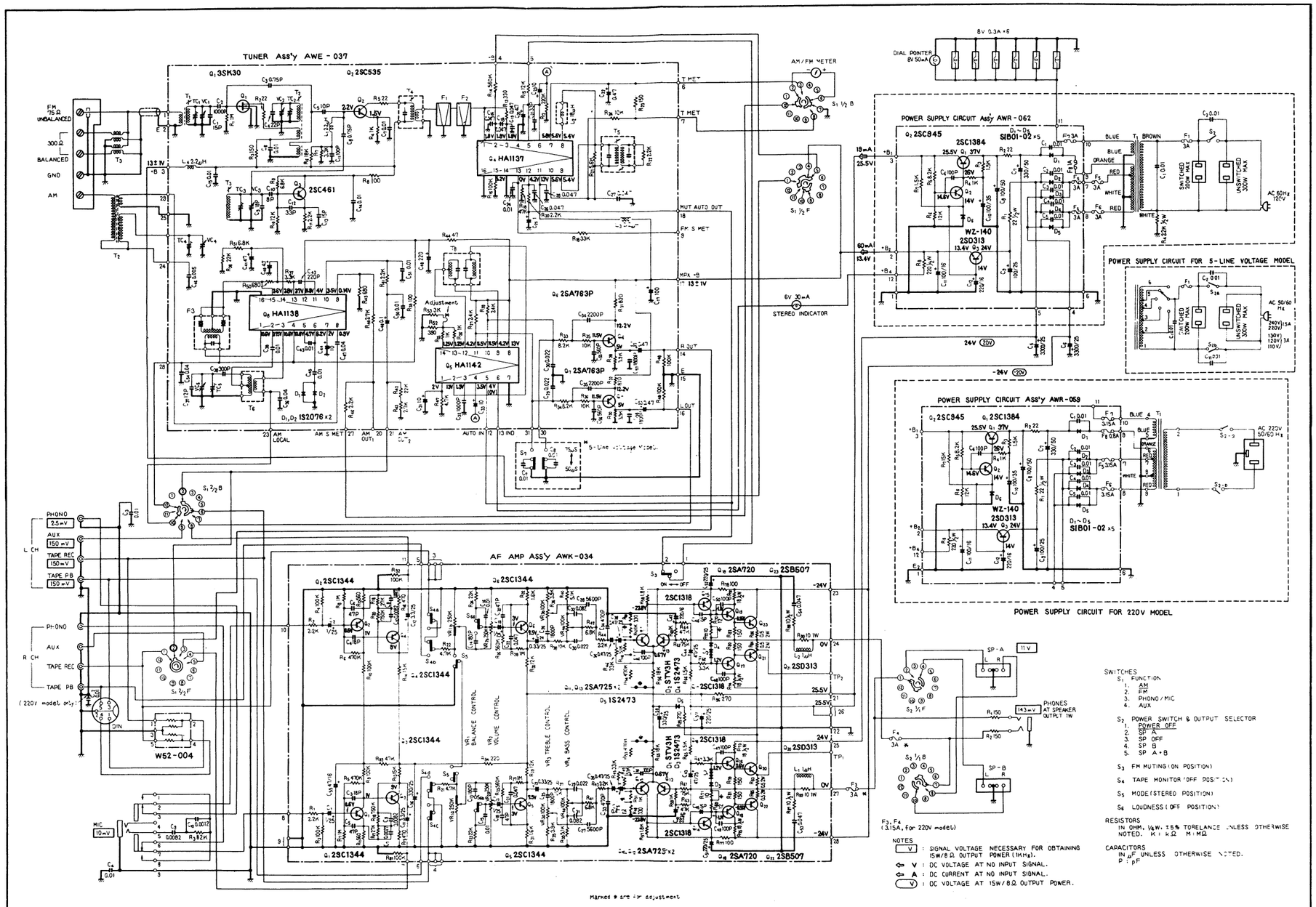
Exploded View

Exploded View



11. SCHEMATIC DIAGRAMS, P.C. BOARD PATTERNS AND PARTS LIST

11.1 CIRCUIT CONNECTION DIAGRAM AND MISCELLANEOUS PARTS


TUNER Ass'y AWE - 037
AF AMP ASS'Y AWK-034
POWER SUPPLY CIRCUIT Ass'y AWR-062
POWER SUPPLY CIRCUIT Ass'y AWR-059
POWER SUPPLY CIRCUIT FOR 5-LINE VOLTAGE MODEL
POWER SUPPLY CIRCUIT FOR 220V MODEL
AM/FM METER
STEREO INDICATOR
DIAL POINTER
W52-004
SWITCHES
S1 FUNCTION
1. AM
2. FM
3. PHONO / MIC
4. AUX
S2 POWER SWITCH & OUTPUT SELECTOR
1. POWER OFF
2. SP A
3. SP OFF
4. SP B
5. SP A+B
S3 FM MUTING (ON POSITION)
S4 TAPE MONITOR (OFF POSITION)
S5 MODE (STEREO POSITION)
S6 LOUDNESS (OFF POSITION)
RESISTORS
IN OHM, 1/4W, ±5% TORELANCE UNLESS OTHERWISE NOTED. K: kΩ M: MΩ
CAPACITORS
IN μF UNLESS OTHERWISE NOTED.
P: pF
NOTES
V : SIGNAL VOLTAGE NECESSARY FOR OBTAINING 15W/8Ω OUTPUT POWER (1kHz).
V : DC VOLTAGE AT NO INPUT SIGNAL.
A : DC CURRENT AT NO INPUT SIGNAL.
V : DC VOLTAGE AT 15W/8Ω OUTPUT POWER.
Marked * are for adjustment

Miscellaneous Parts

- CAPACITORS: IN μF UNLESS OTHERWISE NOTED p: pF
- RESISTORS: IN Ω, ¼W UNLESS OTHERWISE NOTED k: kΩ, M: MΩ

CAPACITORS

Symbol	Description			Part No.	
C1	Ceramic	0.01	250V	ACG-001-0	FV
	Ceramic	0.01	250V	ACG-003-0	KCU
C2	Ceramic	0.01	250V	ACG-001-0	KCU,FV
	Ceramic	0.01	50V	CKDYF 103Z 50	GN
C3	Ceramic	0.01	50V	CKDYF 103Z 50	
C4	Ceramic	0.01	50V	CKDYF 103Z 50	
C5	Electrolytic	3,300	25V	ACH-040-0	
C6	Electrolytic	3,300	25V	ACH-040-0	
C7	Mylar	0.01	50V	CQMA 103K 50	KCU, FV
C8	Mylar	0.01	50V	CQMA 103K 50	KCU, FV
C9	Mylar	0.0082	50V	CQMA 822K 50	
C10	Mylar	0.0012	50V	CQMA 122K 50	
C11	Ceramic	0.01	250V	ACG-001-0	FV

RESISTORS

Symbol	Description			Part No.	
R1	Carbon film	150	½W	RD½PS 151J	
R2	Carbon film	150	½W	RD½PS 151J	
R3	Carbon film	82k		RD¼PS 823J	
R4	Carbon film	2.2M	½W	RD½PW 225J	KCU

SWITCHES

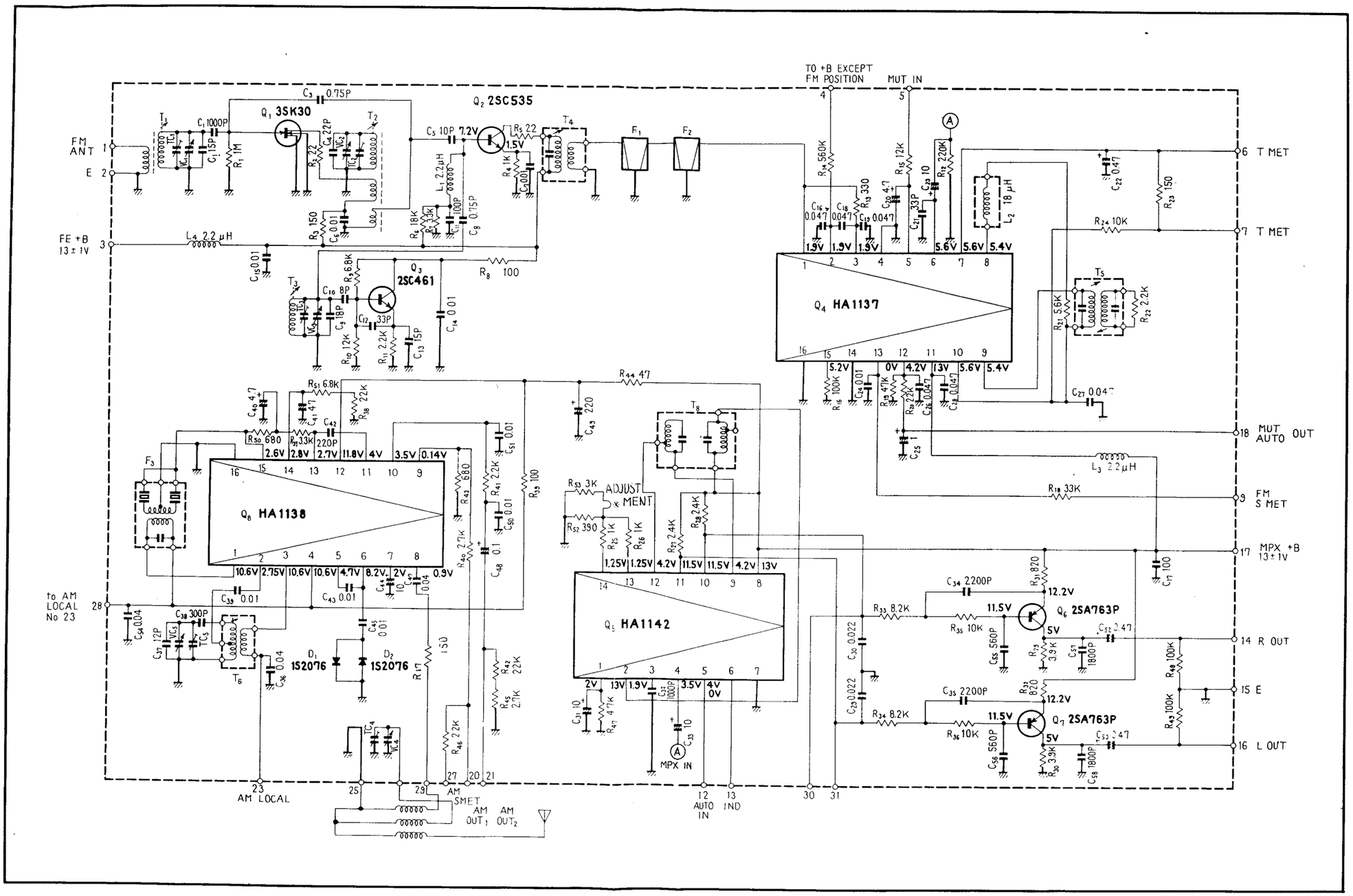
Symbol	Description	Part No.	
S1	Rotary switch (Function)	ASC-059-0	
S2	Rotary switch (Power)	ASA-039-0	KCU
	Rotary switch (Power)	ASA-040-0	GN, FV
S7	Slide switch (De-emphasis)	ASH-008-0	FV

OTHERS

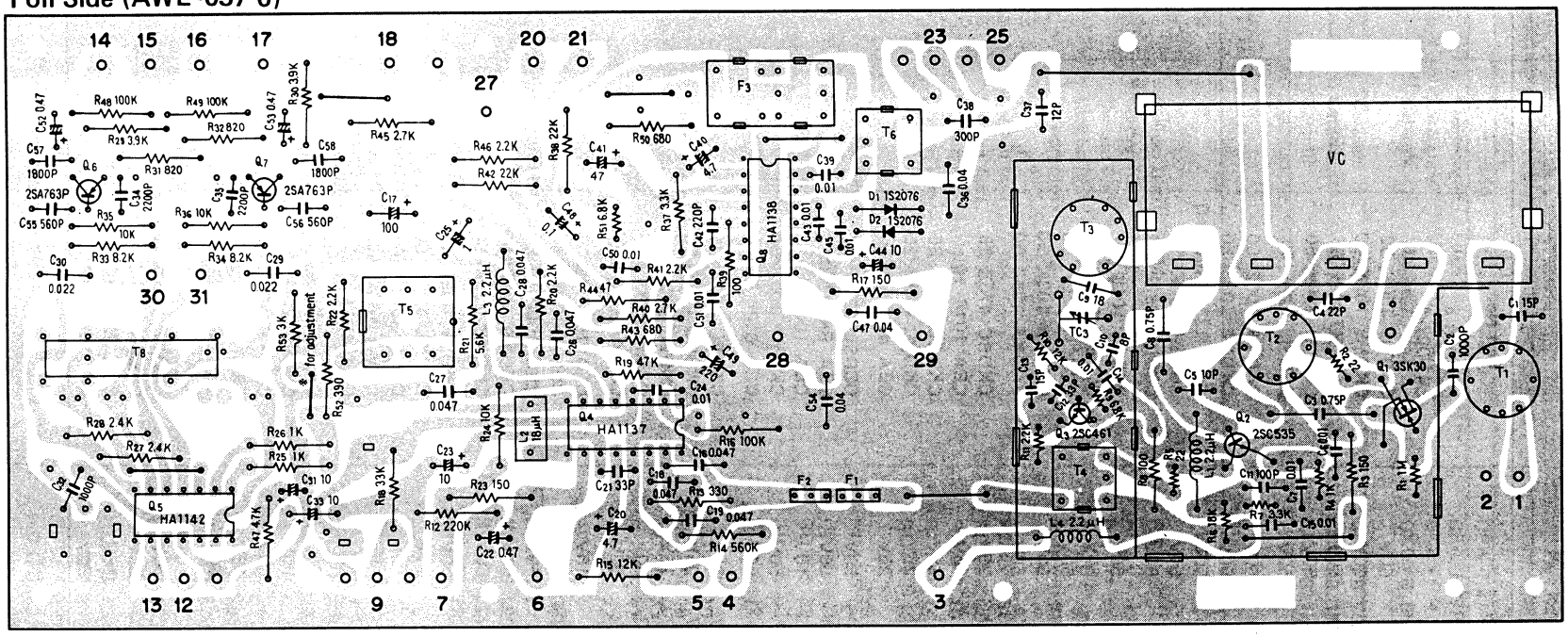
Symbol	Description	Part No.	
	Tuner assembly	AWE-037-0	
	AF amplifier assembly	AWK-034-0	
	Power supply circuit assembly	AWR 062-0	KCU, FV
	Power supply circuit assembly	AWR-059-0	GN
	Power supply circuit assembly	AWR-049-0	FV
	Front panel assembly	ANB-265-0	
	Foot	AEC-061-A	
	Ferrite antenna holder assembly	AXB-001-A	
	Tuning pulley assembly	AXA-015-A	
	Tuning shaft assembly	AXA-021-0	
	Wooden cabinet	AMM-031-A	
	Knob (Tuning)	AAA-024-0	
	Knob (Speaker, Bass, Treble, Balance, Volume, Function)	AAB-068-A	
	Knob (FM muting, Mono, Tape monitor, Loudness)	AAD-050-B	
	Spring	AEF-002-C	
	Dial pointer	AAF-028-0	

Symbol	Description	Part No.	
	Dial scale	AAG-076-A	
	Tuning meter	AAW-026-A	
	Spacer	AEC-090-0	
T1	Power transformer	ATT-169-0	KCU
	Power transformer	ATT-170-A	GN
	Power transformer	ATT-171-0	FV
T2	Ferrite loopstick antenna	ATB-015-A	
T3	Balun	T22-025-A	
	Antenna terminal board	K11-043-D	
	Phono jack-A (4 jacks)	AKB-014-0	
	Phono jack-B (4 jacks)	AKB-015-0	
F1	Fuse 3A (AC power)	AEK-200-0	KCU
	Fuse 1.5A (AC power)	AEK-009-0	FV
F3	Fuse 3A (protection)	E21-036-A	KCU, FV
	Fuse 3.15A (protection)	AEK-042-0	GN
F4	Fuse 3A (protection)	E21-036-A	KCU, FV
	Fuse 3.15A (protection)	AEK-042-0	GN
F5	Fuse 3A (protection)	AEK-101-0	KCU
	Fuse 3.15A (protection)	AEK-042-0	GN
	Fuse 3A (protection)	E21-036-A	FV
F6	Fuse 3A (protection)	AEK-101-0	KCU
	Fuse 3.15A (protection)	AEK-042-0	GN
	Fuse 3A (protection)	E21-036-A	FV
F7	Fuse 3A (protection)	AEK-101-0	KCU
	Fuse 3A (protection)	E21-036-A	FV
	Fuse 3.15A (protection)	AEK-042-0	GN
F8	Fuse 1A (protection)	AEK-106-0	KCU
	Fuse 0.8A (protection)	AEK-031-0	GN
	Fuse 1A (protection)	E21-034-A	FV
	Pilot lamp 6V, 30mA (stereo indicator)	AEL-017-0	
	Pilot lamp 8V, 0.3A (dial scale)	E22-032-0	
	Compound part for REC terminal	W52-004-A	
	Phone jack (Microphone)	K72-020-0	
	Phone jack (Headphone)	K72-026-0	
	Speaker output terminal	AKA-001-0	
	AC socket	AKP-004-0	KCU, FV
	Connector (AC power)	AKP-008-0	GN
	Connector (DIN type 5P)	K93-003-B	
	Fuse holder (AC power)	AKR-001-0	FV
	Fuse holder (protection)	AKR-011-0	KCU, FV
	Fuse holder (protection)	AKR-017-0	GN
	Plastic cover	AEC-058-0	
	Pilot lamp socket	AKK-002-0	
	AC power cord	ADG-005-A	KCU
	AC power cord	ADG-004-0	FV
	Binding post for ground	AKE-017-0	
	FM T-type antenna	ADH-002-0	
	Operating instructions (English)	ARB-102-0	
	Fuse 1.5A (AC power)	AEK-009-0	FV
	Packing case	AHD-215-0	
	Side pad	AHA-019-0	
	Operating instructions (French/German)	ARD-064-0	FV, GN

11.2 TUNER ASSEMBLY (AWE-037)



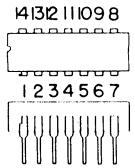
Foil Side (AWE-037-0)



3SK30

2SC535
2SC461

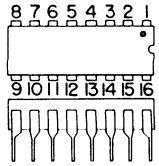
HA1142



2SA725
2SA763P

2SA725

HA1138
HA1137



Parts List of Tuner Assembly (AWE-037-0)

CAPACITORS

Symbol	Description			Part No.	
VC1	Tuning capacitor			C64-046-A	
TC3	Ceramic trimmer			C43-007-A	
C1	Ceramic	15p	50V	CCDTH 150K 50	
C2	Ceramic	0.001	50V	CKDYB 102K 50	
C3	Ceramic	0.75p	500V	CGB R75K 500	
C4	Ceramic	22p	50V	CCDTH 220K 50	
C5	Ceramic	10p	50V	CCDSL 100F 50	
C6	Ceramic	0.01	50V	CKDYF 103Z 50	
C7	Ceramic	0.01	50V	CKDYF 103Z 50	
C8	Ceramic	0.75p	500V	CGB R75K 500	
C9	Ceramic	18p	50V	CCDSH 180K 50	
C10	Ceramic	8p	50V	CCDLH 080F 50	
C11	Ceramic	100p	50V	CCDSL 101K 50	
C12	Ceramic	33p	50V	CCDCH 330K 50	
C13	Ceramic	15p	50V	CCDCH 150K 50	
C14	Ceramic	0.01	50V	CKDYB 103K 50	
C15	Ceramic	0.01	50V	CKDYF 103Z 50	
C16	Ceramic	0.047	25V	CKDBC 473Z 25	
C17	Electrolytic	100	16V	CEA 101P 16	
C18	Ceramic	0.047	25V	CKDBC 473Z 25	
C19	Ceramic	0.047	25V	CKDBC 473Z 25	
C20	Electrolytic	4.7	25V	CEA 4R7P 25	
C21	Ceramic	33p	50V	CCDSL 330K 50	
C22	Electrolytic	0.47	50V	CEA R47P 50	
C23	Electrolytic	10	16V	CEA 100P 16	
C24	Ceramic	0.01	50V	CKDYF 103Z 50	
C25	Electrolytic	1	50V	CEA 010P 50	
C26	Ceramic	0.047	25V	CKDBC 473Z 25	
C27	Ceramic	0.047	25V	CKDBC 473Z 25	
C28	Ceramic	0.047	25V	CKDBC 473Z 25	
C29	Mylar	0.022	50V	CQMA 223J 50	
C30	Mylar	0.022	50V	CQMA 223J 50	
C31	Electrolytic	10 1	16V	CEA 100P 16	
C32	Mylar	0.001	50V	CQMA 102K 50	
C33	Electrolytic	10	16V	CEA 100P 16	
C34	Ceramic	0.0022	50V	CKDYB 222K 50	
C35	Ceramic	0.0022	50V	CKDYB 222K 50	
C36	Ceramic	0.04	50V	CKDYF 403Z 50	
C37	Ceramic	12p	50V	CCDXL 120K 50	
C38	Styrol	300p	50V	CQSA 301J 50	
C39	Mylar	0.01	50V	CQMA 103K 50	
C40	Electrolytic	4.7	25V	CEA 4R7P 25	
C41	Electrolytic	47	6V	CEA 470P 6	
C42	Ceramic	220p	50V	CCDSL 221K 50	
C43	Ceramic	0.01	50V	CKDYF 103Z 50	
C44	Electrolytic	10	16V	CEA 100P 16	
C45	Ceramic	0.01	50V	CKDYF 103Z 50	
C46					
C47	Ceramic	0.04	50V	CKDYF 403Z 50	
C48	Electrolytic	0.1	25V	CSSA 0R1M 25	
C49	Electrolytic	220	16V	CEA 221P 16	
C50	Ceramic	0.01	50V	CKDYB 103K 50	

Symbol	Description			Part No.	
C51	Ceramic	0.01	50V	CKDYB 103K 50	
C52	Electrolytic	0.47	50V	CEA R47P 50	
C53	Electrolytic	0.47	50V	CEA R47P 50	
C54	Ceramic	0.04	50V	CKDYF 403Z 50	
C55	Ceramic	560p	50V	CKDYB 561K 50	
C56	Ceramic	560p	50V	CKDYB 561K 50	
C57	Ceramic	0.0018	50V	CKDYB 182K 50	
C58	Ceramic	0.0018	50V	CKDYB 182K 50	

RESISTORS

Symbol	Description		Part No.	
R1	Carbon film	1M	RD¼VS 105J	
R2	Carbon film	22	RD¼VS 220J	
R3	Carbon film	150	RD¼PS 151J	
R4	Carbon film	1k	RD¼VS 102J	
R5	Carbon film	22	RD¼VS 220J	
R6	Carbon film	18k	RD¼VS 183J	
R7	Carbon film	3.3k	RD¼VS 332J	
R8	Carbon film	100	RD¼PS 101J	
R9	Carbon film	6.8k	RD¼VS 682J	
R10	Carbon film	12k	RD¼VS 123J	
R11	Carbon film	2.2k	RD¼VS 222J	
R12	Carbon film	220k	RD¼PS 224J	
R13	Carbon film	330	RD¼PS 331J	
R14	Carbon film	560k	RD¼PS 564J	
R15	Carbon film	12k	RD¼PS 123J	
R16	Carbon film	100k	RD¼PS 104J	
R17	Carbon film	150	RD¼PS 151J	
R18	Carbon film	33k	RD¼PS 333J	
R19	Carbon film	47k	RD¼PS 473J	
R20	Carbon film	2.2k	RD¼PS 222J	
R21	Carbon film	5.6k	RD¼PS 562J	
R22	Carbon film	2.2k	RD¼PS 222J	
R23	Carbon film	150	RD¼PS 151J	
R24	Carbon film	10k	RD¼PS 103J	
R25	Carbon film	1k	RD¼PS 102J	
R26	Carbon film	1k	RD¼PS 102J	
R27	Carbon film	2.4k	RD¼PS 242J	
R28	Carbon film	2.4k	RD¼PS 242J	
R29	Carbon film	3.9k	RD¼PS 392J	
R30	Carbon film	3.9k	RD¼PS 392J	
R31	Carbon film	820	RD¼PS 821J	
R32	Carbon film	820	RD¼PS 821J	
R33	Carbon film	8.2k	RD¼PS 822J	
R34	Carbon film	8.2k	RD¼PS 822J	
R35	Carbon film	10k	RD¼PS 103J	
R36	Carbon film	10k	RD¼PS 103J	
R37	Carbon film	3.3k	RD¼PS 332J	
R38	Carbon film	22k	RD¼PS 223J	
R39	Carbon film	100	RD¼PS 101J	
R40	Carbon film	2.7k	RD¼PS 272J	

Continued on the Next Page

Symbol	Description		Part No.	
R41	Carbon film	2.2k	RD¼PS 222J	
R42	Carbon film	22k	RD¼PS 223J	
R43	Carbon film	680	RD¼PS 681J	
R44	Carbon film	47	RD¼PS 470J	
R45	Carbon film	2.7k	RD¼PS 272J	
R46	Carbon film	2.2k	RD¼PS 222J	
R47	Carbon film	4.7k	RD¼PS 472J	
R48	Carbon film	100k	RD¼PS 104J	
R49	Carbon film	100k	RD¼PS 104J	
R50	Carbon film	680	RD¼PS 681J	
R51	Carbon film	6.8k	RD¼PS 682J	
R52	Carbon film	390	RD¼PS 391J	
R53	Carbon film	3k	RD¼PS 302J	

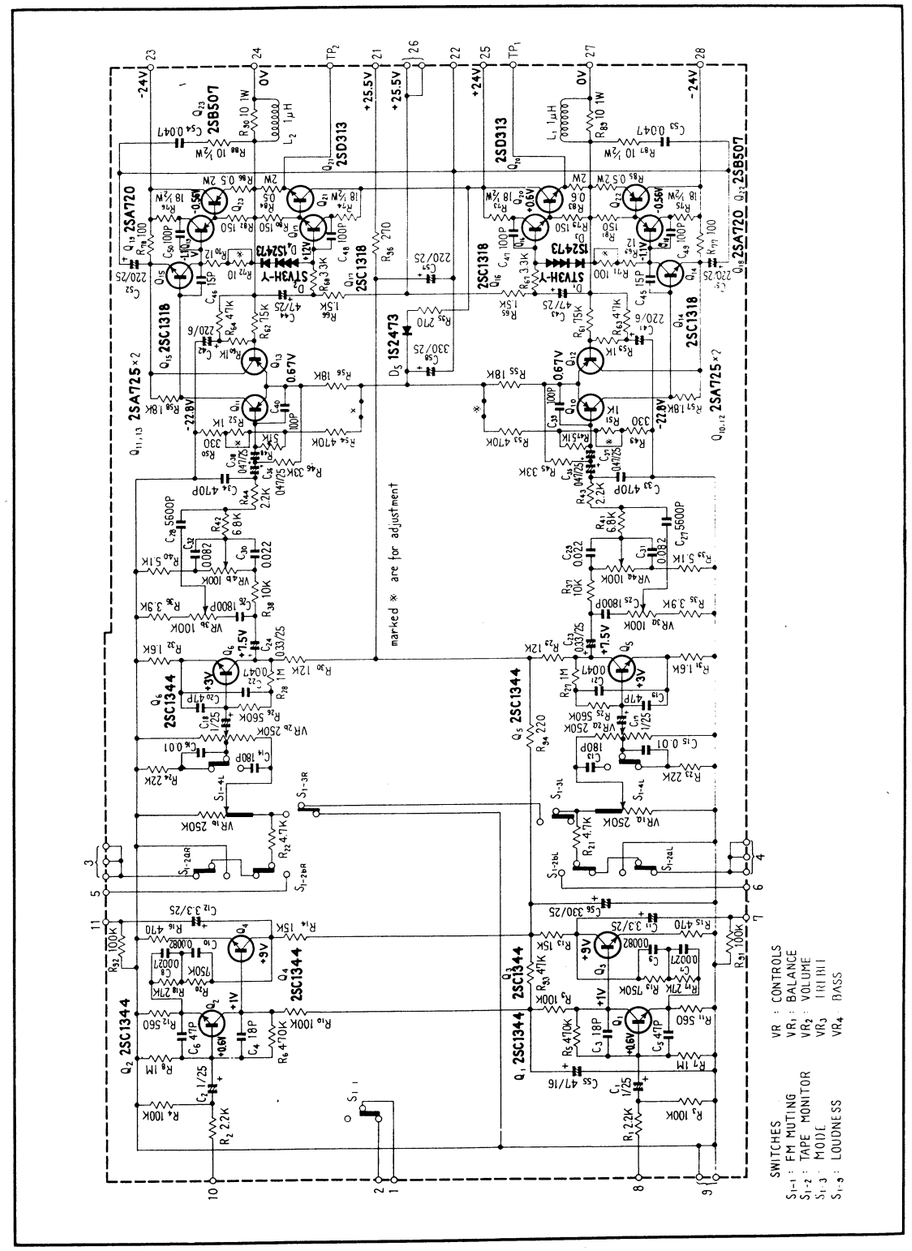
SEMICONDUCTORS

Symbol	Description		Part No.	
Q1	FET	3SK30-B		
Q2	Transistor	2SC535-A or B		
Q3	Transistor	2SC461-B		
Q4	IC	HA1137		
Q5	IC	HA1142		
Q6	Transistor	2SA763P-6 or 5 (2SA725-F or G)		
Q7	Transistor	2SA763P-6 or 5 (2SA725-F or G)		
Q8	IC	HA1138		
D1	Diode	1S2076		
D2	Diode	1S2076		

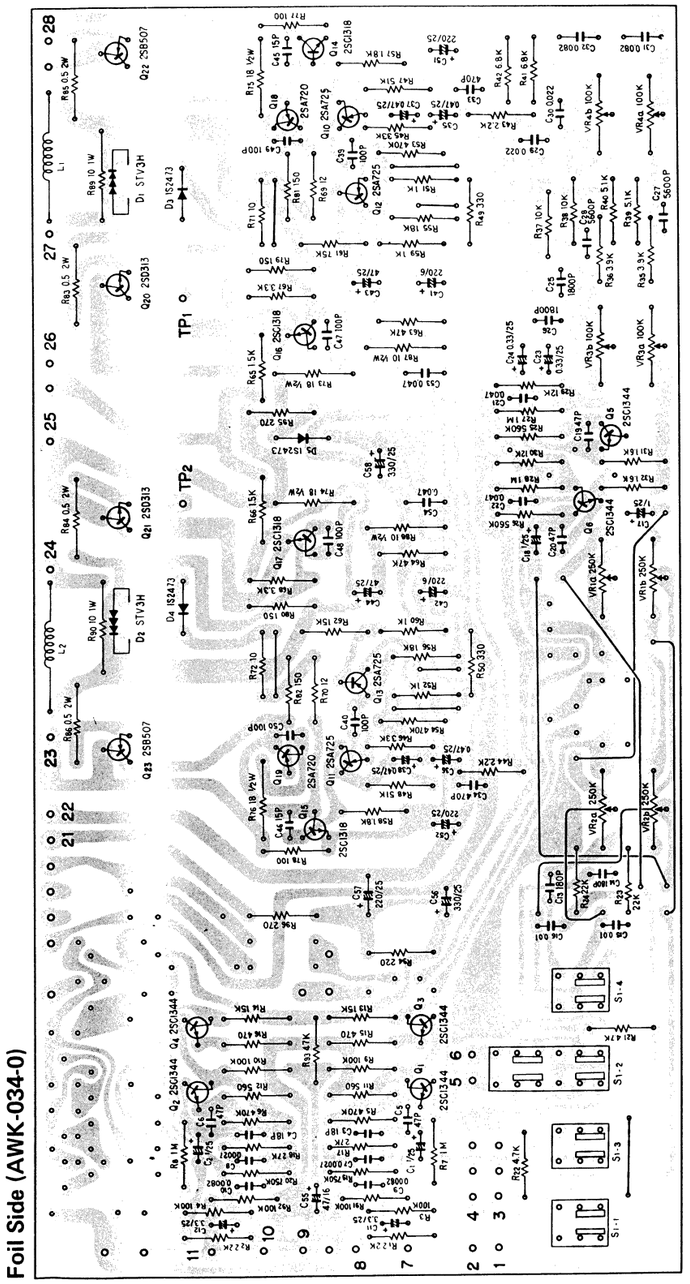
COILS, TRANSFORMERS AND FILTERS

Symbol	Description	Part No.	
T1	FM antenna coil	ATC-023-0	
T2	FM RF coil	ATC-024-0	
T3	FM OSC coil	ATC-025-0	
T4	FM matching transformer	ATE-008-0	
T5	FM IF transformer	T73-035-A	
T6	AM OSC coil	ATB-013-0	
T7			
T8	MPX transformer	ATM-020-0	
F1	FM ceramic filter	ATF-013-B	
F2	FM ceramic filter	ATF-013-B	
F3	AM ceramic filter	ATF-009-0	
L1	RF choke coil	T24-028-A	
L2	Choke coil	ATH-007-0	
L3	RF choke coil	T24-028-A	
L4	RF choke coil	T24-028-A	

11.3 AF AMPLIFIER ASSEMBLY (AWK-034)



Foil Side (AWK-034-0)



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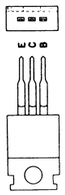
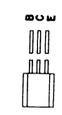
2SB507 2SC789



2SC900 2SC945
2SC1318

2SA720 2SC900
2SA763P 2SC1318



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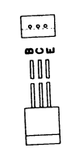

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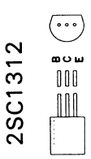
2SC1312



Parts List of AF Amplifier Assembly (AWK-034-0)

CAPACITORS

Symbol	Description			Part No.
C1	Electrolytic	1	25V	CSSA 010M 25
C2	Electrolytic	1	25V	CSSA 010M 25
C3	Ceramic	18p	50V	CCDSL 180K 50
C4	Ceramic	18p	50V	CCDSL 180K 50
C5	Ceramic	47p	50V	CCDSL 470K 50
C6	Ceramic	47p	50V	CCDSL 470K 50
C7	Mylar	0.0027	50V	CQMA 272J 50
C8	Mylar	0.0027	50V	CQMA 272J 50
C9	Mylar	0.0082	50V	CQMA 822J 50
C10	Mylar	0.0082	50V	CQMA 822J 50
C11	Electrolytic	3.3	25V	CEANL 3R3P 25
C12	Electrolytic	3.3	25V	CEANL 3R3P 25
C13	Ceramic	180p	50V	CCDSL 181K 50
C14	Ceramic	180p	50V	CCDSL 181K 50
C15	Mylar	0.01	50V	CQMA 103J 50
C16	Mylar	0.01	50V	CQMA 103J 50
C17	Electrolytic	1	25V	CSSA 010M 25
C18	Electrolytic	1	25V	CSSA 010M 25
C19	Ceramic	47p	50V	CCDSL 470K 50
C20	Ceramic	47p	50V	CCDSL 470K 50
C21	Mylar	0.047	50V	CQMA 473J 50
C22	Mylar	0.047	50V	CQMA 473J 50
C23	Electrolytic	0.33	25V	CSSA R33M 25
C24	Electrolytic	0.33	25V	CSSA R33M 25
C25	Ceramic	0.0018	50V	CKDYB 182K 50
C26	Ceramic	0.0018	50V	CKDYB 182K 50
C27	Ceramic	0.0056	50V	CKDYB 562K 50
C28	Ceramic	0.0056	50V	CKDYB 562K 50
C29	Mylar	0.022	50V	CQMA 223J 50
C30	Mylar	0.022	50V	CQMA 223J 50
C31	Mylar	0.082	50V	CQMA 823J 50
C32	Mylar	0.082	50V	CQMA 823J 50
C33	Ceramic	470p	50V	CKDYB 471K 50
C34	Ceramic	470p	50V	CKDYB 471K 50
C35	Electrolytic	0.47	25V	CSSA R47M 25
C36	Electrolytic	0.47	25V	CSSA R47M 25
C37	Electrolytic	0.47	25V	CSSA R47M 25
C38	Electrolytic	0.47	25V	CSSA R47M 25
C39	Ceramic	100p	50V	CCDSL 101K 50
C40	Ceramic	100p	50V	CCDSL 101K 50
C41	Electrolytic	220	6V	CEA 221P 6
C42	Electrolytic	220	6V	CEA 221P 6
C43	Electrolytic	47	25V	CEA 470P 25
C44	Electrolytic	47	25V	CEA 470P 25
C45	Ceramic	15p	50V	CCDSL 150K 50
C46	Ceramic	15p	50V	CCDSL 150K 50
C47	Ceramic	100p	50V	CCDSL 101K 50
C48	Ceramic	100p	50V	CCDSL 101K 50
C49	Ceramic	100p	50V	CCDSL 101K 50
C50	Ceramic	100p	50V	CCDSL 101K 50
C51	Electrolytic	220	25V	CEA 221P 25
C52	Electrolytic	220	25V	CEA 221P 25
C53	Mylar	0.047	50V	CQMA 473J 50
C54	Mylar	0.047	50V	CQMA 473J 50
C55	Electrolytic	47	16V	CEA 470P 16
C56	Electrolytic	330	25V	CEA 331P 25
C57	Electrolytic	220	25V	CEA 221P 25
C58	Electrolytic	330	25V	CEA 331P 25

RESISTORS AND POTENTIOMETERS

Symbol	Description		Part No.
R1	Carbon film	2.2k	RD¼PS 222J
R2	Carbon film	2.2k	RD¼PS 222J
R3	Carbon film	100k	RD¼PS 104J
R4	Carbon film	100k	RD¼PS 104J
R5	Carbon film	470k	RD¼PS 474J
R6	Carbon film	470k	RD¼PS 474J
R7	Carbon film	1M	RD¼PS 105J
R8	Carbon film	1M	RD¼PS 105J
R9	Carbon film	100k	RD¼PS 104J
R10	Carbon film	100k	RD¼PS 104J
R11	Carbon film	560	RD¼PS 561J
R12	Carbon film	560	RD¼PS 561J
R13	Carbon film	15k	RD¼PS 153J
R14	Carbon film	15k	RD¼PS 153J
R15	Carbon film	470	RD¼PS 471J
R16	Carbon film	470	RD¼PS 471J
R17	Carbon film	27k	RD¼PS 273J
R18	Carbon film	27k	RD¼PS 273J
R19	Carbon film	750k	RD¼PS 754J
R20	Carbon film	750k	RD¼PS 754J
R21	Carbon film	4.7k	RD¼PS 472J
R22	Carbon film	4.7k	RD¼PS 472J
R23	Carbon film	22k	RD¼PS 223J
R24	Carbon film	22k	RD¼PS 223J
R25	Carbon film	560k	RD¼PS 564J
R26	Carbon film	560k	RD¼PS 564J
R27	Carbon film	1M	RD¼PS 105J
R28	Carbon film	1M	RD¼PS 105J
R29	Carbon film	12k	RD¼PS 123J
R30	Carbon film	12k	RD¼PS 123J
R31	Carbon film	1.6k	RD¼PS 162J
R32	Carbon film	1.6k	RD¼PS 162J
R33			
R34			
R35	Carbon film	3.9k	RD¼PS 392J

Symbol	Description			Part No.	
R36	Carbon film	3.9k		RD¼PS 392J	
R37	Carbon film	10k		RD¼PS 103J	
R38	Carbon film	10k		RD¼PS 103J	
R39	Carbon film	5.1k		RD¼PS 512J	
R40	Carbon film	5.1k		RD¼PS 512J	
R41	Carbon film	6.8k		RD¼PS 682J	
R42	Carbon film	6.8k		RD¼PS 682J	
R43	Carbon film	2.2k		RD¼PS 222J	
R44	Carbon film	2.2k		RD¼PS 222J	
R45	Carbon film	33k		RD¼PS 333J	
R46	Carbon film	33k		RD¼PS 333J	
R47	Carbon film	51k		RD¼PS 513J	
R48	Carbon film	51k		RD¼PS 513J	
R49	Carbon film	330		RD¼PS 331J	
R50	Carbon film	330		RD¼PS 331J	
R51	Carbon film	1k		RD¼PS 102J	
R52	Carbon film	1k		RD¼PS 102J	
R53	Carbon film	470k		RD¼PS 474J	
R54	Carbon film	470k		RD¼PS 474J	
R55	Carbon film	18k		RD¼PS 183J	
R56	Carbon film	18k		RD¼PS 183J	
R57	Carbon film	1.8k		RD¼PS 182J	
R58	Carbon film	1.8k		RD¼PS 182J	
R59	Carbon film	1k		RD¼PS 102J	
R60	Carbon film	1k		RD¼PS 102J	
R61	Carbon film	75k		RD¼PS 753J	
R62	Carbon film	75k		RD¼PS 753J	
R63	Carbon film	47k		RD¼PS 473J	
R64	Carbon film	47k		RD¼PS 473J	
R65	Carbon film	1.5k		RD¼PS 152J	
R66	Carbon film	1.5k		RD¼PS 152J	
R67	Carbon film	3.3k		RD¼PS 332J	
R68	Carbon film	3.3k		RD¼PS 332J	
R69	Carbon film	12		RD¼PS 120J	
R70	Carbon film	12		RD¼PS 120J	
R71	Carbon film	10		RD¼PS 100J	
R72	Carbon film	10		RD¼PS 100J	
R73	Carbon film	18	½W	RD½PS 180J	
R74	Carbon film	18	½W	RD½PS 180J	
R75	Carbon film	18	½W	RD½PS 180J	
R76	Carbon film	18	½W	RD½PS 180J	
R77	Carbon film	100		RD¼PS 101J	
R78	Carbon film	100		RD¼PS 101J	
R79	Carbon film	150		RD¼PS 151J	
R80	Carbon film	150		RD¼PS 151J	
R81	Carbon film	150		RD¼PS 151J	
R82	Carbon film	150		RD¼PS 151J	
R83	Metal film	0.5	2W	RN2H 0R5K	
R84	Metal film	0.5	2W	RN2H 0R5K	
R85	Metal film	0.5	2W	RN2H 0R5K	

Continued on the Next Page

Symbol	Description			Part No.	
R86	Metal film	0.5	2W	RN2H 0R5K	
R87	Carbon film	10	½W	RD½PS 100J	
R88	Carbon film	10	½W	RD½PS 100J	
R89	Metal oxide	10	1W	RS1P 100J	
R90	Metal oxide	10	1W	RS1P 100J	
R91	Carbon film	100k		RD¼PS 104J	
R92	Carbon film	100k		RD¼PS 104J	
R93	Carbon film	47k		RD¼PS 473J	
R94	Carbon film	220		RD¼PS 221J	
R95	Carbon film	270		RD¼PS 271J	
R96	Carbon film	270		RD¼PS 271J	
VR1	Variable resistor	250k-HB	(Balance)	ACV-111-B	
VR2	Variable resistor	250k-B1	(Volume)	ACV-124-0	
VR3	Variable resistor	100k-A2	(Treble)	ACV-137-0	
VR4	Variable resistor	100k-A2	(Bass)	ACV-137-0	

SEMICONDUCTORS

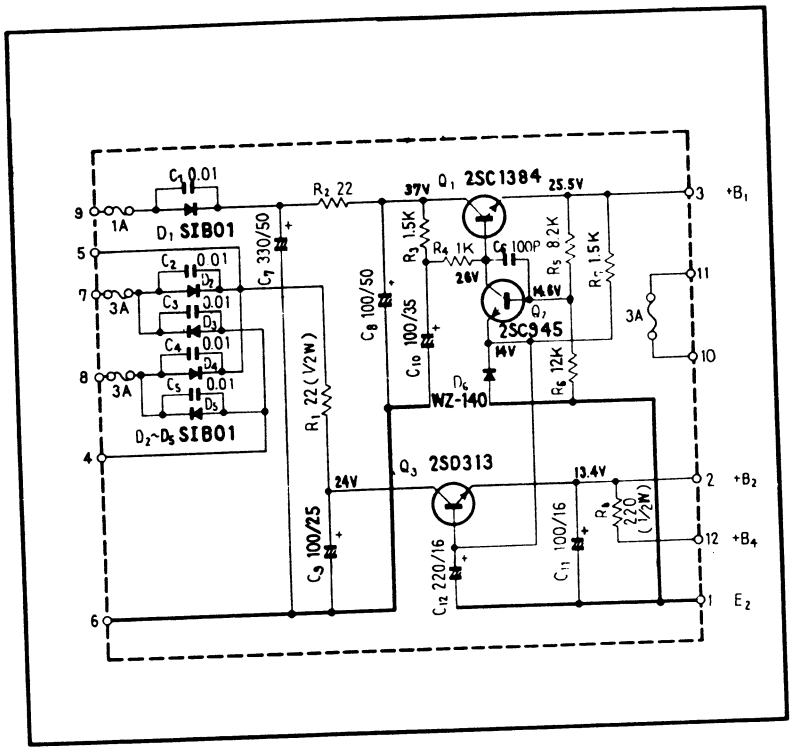
Symbol	Description		Part No.	
Q1	Transistor	2SC1344-E or D (2SC1312-G or F) (2SC900-E or U)		
Q2	Transistor	2SC1344-E or D (2SC1312-G or F) (2SC900-E or U)		
Q3	Transistor	2SC1344-E or D (2SC1312-G or F) (2SC900-E or U)		
Q4	Transistor	2SC1344-E or D (2SC1312-G or F) (2SC900-E or U)		
Q5	Transistor	2SC1344-E of D (2SC1312-G or F) (2SC900-E or U)		
Q6	Transistor	2SC1344-E or D (2SC1312-G or F) (2SC900-E or U)		
Q10	Transistor	2SA725-G or F (2SA763P-5 or 6)		
Q11	Transistor	2SA725-G or F (2SA763P-5 or 6)		
Q12	Transistor	2SA725-G or F (2SA763P-5 or 6)		
Q13	Transistor	2SA725-G or F (2SA763P-5 or 6)		
Q14	Transistor	2SC1318-R or Q		
Q15	Transistor	2SC1318-R or Q		
Q16	Transistor	2SC1318-R or Q		
Q17	Transistor	2SC1318-R or Q		
Q18	Transistor	2SA720-R or Q		

Symbol	Description	Part No.	
Q19	Transistor 2SA720-R or Q		
Q20	Transistor 2SD313-D or E (2SC789-Oor Y)		
Q21	Transistor 2SD313-D or E (2SC789-Oor Y)		
Q22	Transistor 2SB507-D or E (2SA489-Oor Y)		
Q23	Transistor 2SB507-D or E (2SA489-Oor Y)		
D1	Varistor STV3H-Y or O		
D2	Varistor STV3H-Y or O		
D3	Diode 1S2473		
D4	Diode 1S2473		
D5	Diode 1S2473		

OTHERS

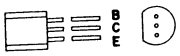
Symbol	Description	Part No.	
L1	Choke coil	ATH-003-A	
L2	Choke coil	ATH-003-A	
	Heat sink	ANH-192-0	
	Socket (transistor)	AKH-002-0	
	Spacer (insulator)	AEC-078-0	
	Push switch (Loudness, Mono, Tape monitor, FM nuting)	ASG-055-0	
	Nut 9ϕ	B71-004-0	
	Washer 1t	M45-086-A	

11.4 POWER SUPPLY CIRCUIT ASSEMBLY (AWR-062-0)

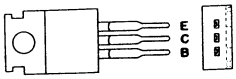


2SC1384

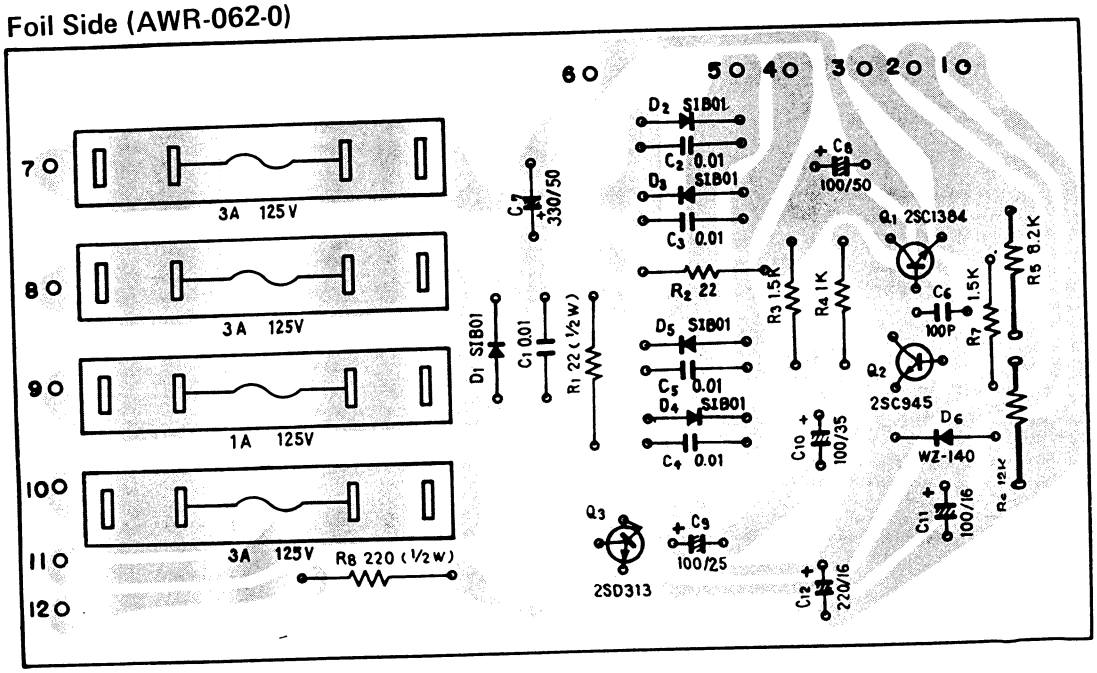
2SC945



2SD313



Foil Side (AWR-062-0)



Parts List of Power Supply Circuit Assembly (AWR-062-0)

CAPACITORS

Symbol	Description			Part No.	
C1	Ceramic	0.01	150V	ACG-004-0	
C2	Ceramic	0.01	150V	ACG-004-0	
C3	Ceramic	0.01	150V	ACG-004-0	
C4	Ceramic	0.01	150V	ACG-004-0	
C5	Ceramic	0.01	150V	ACG-004-0	
C6	Ceramic	100p	50V	CCDSL 101K 50	
C7	Electrolytic	330	50V	CEA 331P 50	
C8	Electrolytic	100	50V	CEA 101P 50	
C9	Electrolytic	100	25V	CEA 101P 25	
C10	Electrolytic	100	35V	CEA 101P 35	
C11	Electrolytic	100	16V	CEA 101P 16	
C12	Electrolytic	220	16V	CEA 221P 16	

RESISTORS

Symbol	Description			Part No.	
R1	Carbon film	22	½W	RD½PS 220J	
R2	Carbon film	22		RD¼PS 220J	
R3	Carbon film	1.5k		RD¼PS 152J	
R4	Carbon film	1k		RD¼PS 102J	
R5	Carbon film	8.2k		RD¼PS 822J	
R6	Carbon film	12k		RD¼PS 123J	
R7	Carbon film	1.5k		RD¼PS 152J	
R8	Carbon film	220	½W	RD½PS 221J	

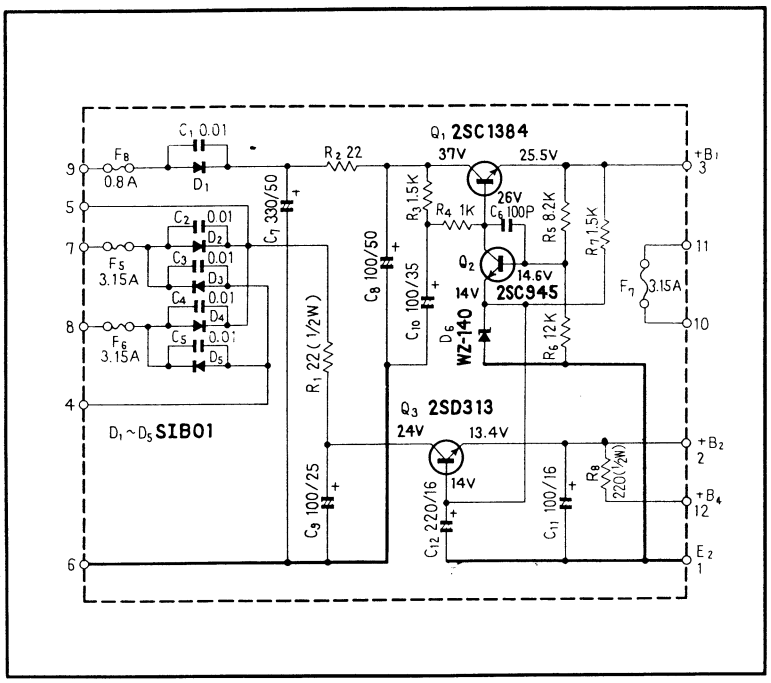
SEMICONDUCTORS

Symbol	Description		Part No.	
Q1	Transistor	2SC1384-R or Q		
Q2	Transistor	2SC945-R or Q		
Q3	Transistor	2SD313-D or E		
D1	Diode	SIB01-02 or 1S1886		
D2	Diode	SIB01-02 or 1S1886		
D3	Diode	SIB01-02 or 1S1886		
D4	Diode	SIB01-02 or 1S1886		
D5	Diode	SIB01-02 or 1S1886		
D6	Zener diode	WZ-140		

OTHERS

Symbol	Description	Part No.	
	Clip-in type fuse holder	AKR-013-0	
	Heat sink	ANH-117-0	

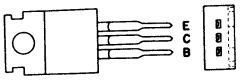
11.5 POWER SUPPLY CIRCUIT ASSEMBLY FOR GN MODEL (AWR-059-0)



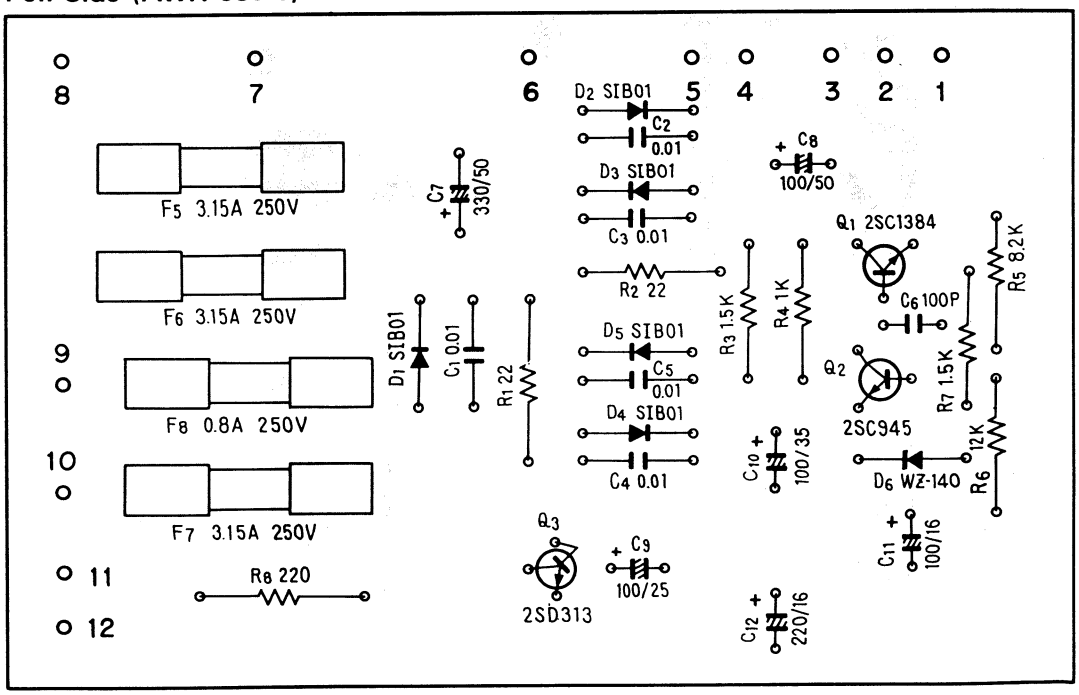
2SC1384

2SC945

2SD313



Foil Side (AWR-059-0)



Parts List of Power Supply Circuit Assembly (AWR-059-0)

CAPACITORS

Symbol	Description			Part No.	
C1	Ceramic	0.01	150V	ACG-004-0	
C2	Ceramic	0.01	150V	ACG-004-0	
C3	Ceramic	0.01	150V	ACG-004-0	
C4	Ceramic	0.01	150V	ACG-004-0	
C5	Ceramic	0.01	150V	ACG-004-0	
C6	Ceramic	100p	50V	CCDSL 101K 50	
C7	Electrolytic	330	50V	CEA 331P 50	
C8	Electrolytic	100	50V	CEA 101P 50	
C9	Electrolytic	100	25V	CEA 101P 25	
C10	Electrolytic	100	35V	CEA 101P 35	
C11	Electrolytic	100	16V	CEA 101P 16	
C12	Electrolytic	220	16V	CEA 221P 16	

RESISTORS

Symbol	Description			Part No.	
R1	Carbon film	22	½W	RD½PS 220J	
R2	Carbon film	22		RD¼PS 220J	
R3	Carbon film	1.5k		RD¼PS 152J	
R4	Carbon film	1k		RD¼PS 102J	
R5	Carbon film	8.2k		RD¼PS 822J	
R6	Carbon film	12k		RD¼PS 123J	
R7	Carbon film	1.5k		RD¼PS 152J	
R8	Carbon film	220	½W	RD½PS 221J	

SEMICONDUCTORS

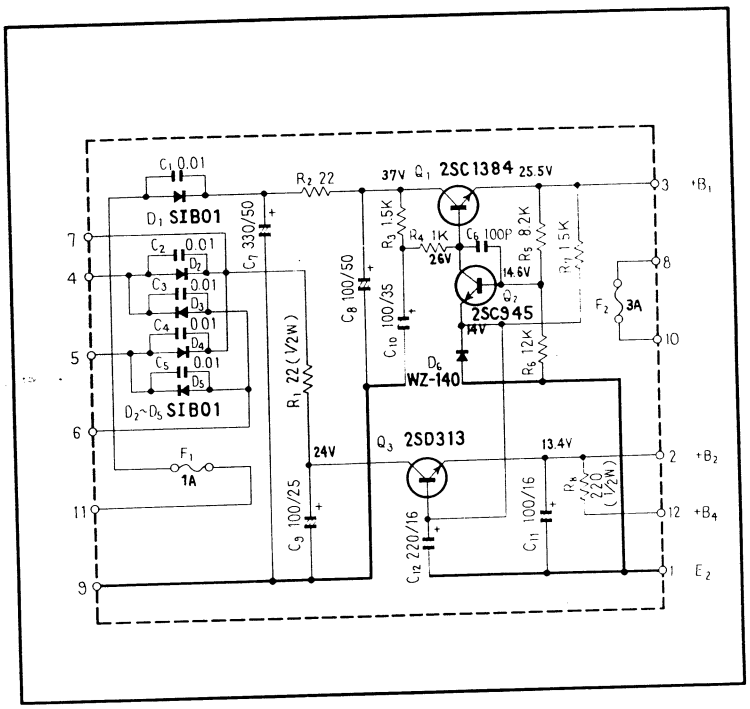
Symbol	Description		Part No.	
Q1	Transistor	2SC1384-R or Q		
Q2	Transistor	2SC945-R or Q		
Q3	Transistor	2SD313-D or E		
D1	Diode	SIB01-02 or 1S1886		
D2	Diode	SIB01-02 or 1S1886		
D3	Diode	SIB01-02 or 1S1886		
D4	Diode	SIB01-02 or 1S1886		
D5	Diode	SIB01-02 or 1S1886		
D6	Zener diode	WZ-140		

OTHERS

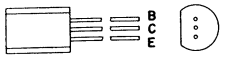
Symbol	Description	Part No.	
	Fuse holder	AKR-010-0	
	Heat sink	ANH-117-0	

11.6 POWER SUPPLY CIRCUIT ASSEMBLY (AWR-049-0)

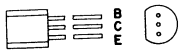
NOTE:
The assembly boards (AWR-049-0) are all used in 5-line voltage models marked with Serial numbers from 1300001 to 1302000.
However, the model which begins from Serial No. 1302001 and the following models use the power supply circuit assembly boards (AWR-062-0).
Before servicing, confirm serial number corresponding to the model to be repaired.



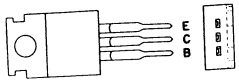
2SC1384

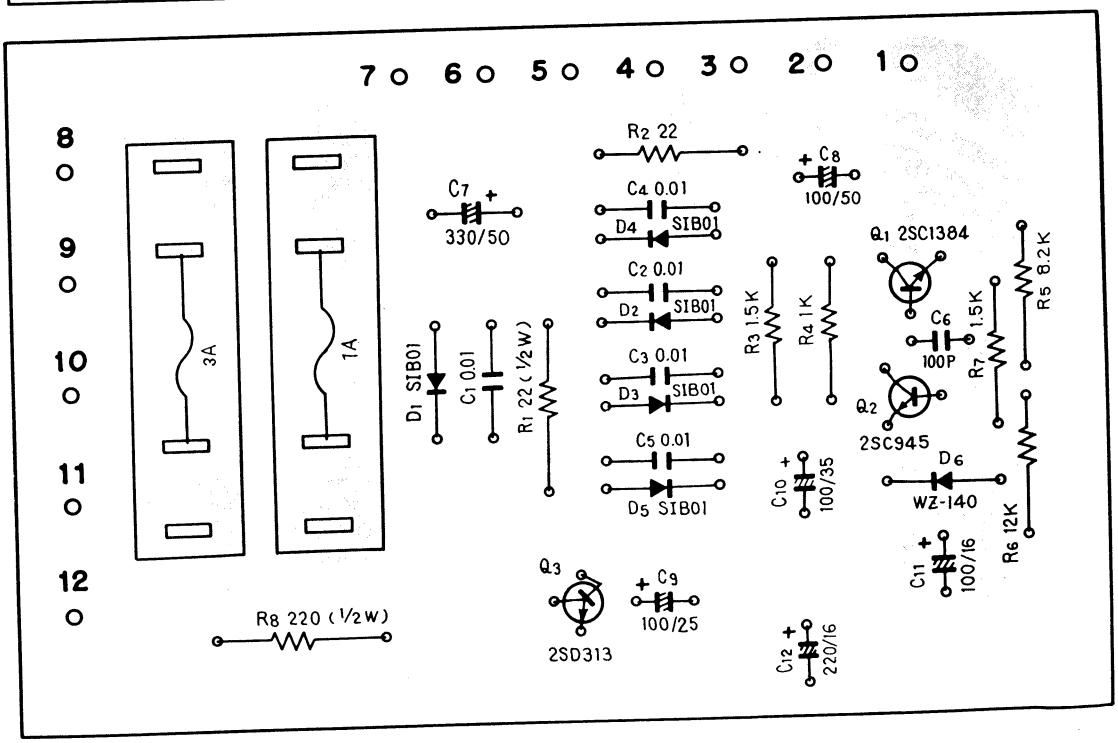


2SC945



2SD313





Parts List of Power Supply Circuit Assembly (AWR-049-0)

CAPACITORS

Symbol	Description			Part No.	
C1	Ceramic	0.01	150V	ACG-004-0	
C2	Ceramic	0.01	150V	ACG-004-0	
C3	Ceramic	0.01	150V	ACG-004-0	
C4	Ceramic	0.01	150V	ACG-004-0	
C5	Ceramic	0.01	150V	ACG-004-0	
C6	Ceramic	100p	50V	CCDSL 101K 50	
C7	Electrolytic	330	50V	CEA 331P 50	
C8	Electrolytic	100	50V	CEA 101P 50	
C9	Electrolytic	100	25V	CEA 101P 25	
C10	Electrolytic	100	35V	CEA 101P 35	
C11	Electrolytic	100	16V	CEA 101P 16	
C12	Electrolytic	220	16V	CEA 221P 16	

RESISTORS

Symbol	Description			Part No.	
R1	Carbon film	22	½W	RD½PS 220J	
R2	Carbon film	22		RD¼PS 220J	
R3	Carbon film	1.5k		RD¼PS 152J	
R4	Carbon film	1k		RD¼PS 102J	
R5	Carbon film	8.2k		RD¼PS 822J	
R6	Carbon film	12k		RD¼PS 123J	
R7	Carbon film	1.5k		RD¼PS 152J	
R8	Carbon film	220	½W	RD½PS 221J	

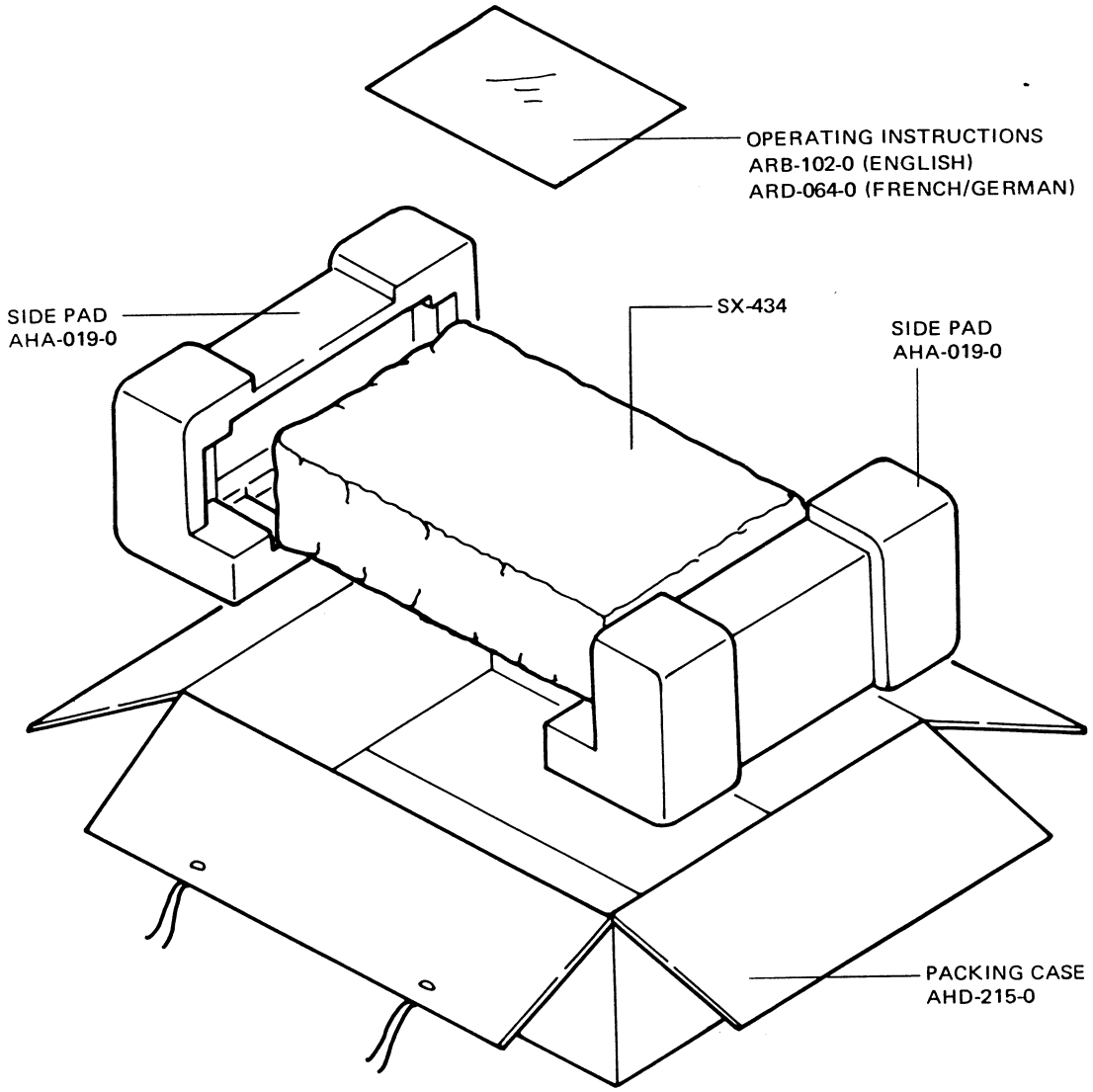
SEMICONDUCTORS

Symbol	Description		Part No.	
Q1	Transistor	2SC1384-R or Q		
Q2	Transistor	2SC945-R or Q		
Q3	Transistor	2SD313-D or E		
D1	Diode	SIB01-02 or 1S1886		
D2	Diode	SIB01-02 or 1S1886		
D3	Diode	SIB01-02 or 1S1886		
D4	Diode	SIB01-02 or 1S1886		
D5	Diode	SIB01-02 or 1S1886		
D6	Zener diode	WZ-140		

OTHERS

Symbol	Description	Part No.	
	Clip-in type fuse holder	AKR-013-0	
	Heat sink	ANH-117-0	

12. PACKING METHOD AND PARTS NUMBERS



PIONEER

SX-434

KCU
GN
FV

TUNER Ass'y AWE - 037

Q1 3SK30

Q2 2SC535

Q3 2SC461

Q4 HA1137

Q5 HA1142

Q6 2SA763P

Q7 2SA763P

Q8 HA1138

D1, D2 1S2076 x2

FM 75Ω UNBALANCED

300Ω BALANCED

GND

AM

13±1V

+B 3

+B 4

5

T MET 6

T MET 7

MUTE OUT 18

FM S MET 9

MPX +B 17 1V

R OUT 14

E 15

L OUT 16

AM LOCAL 23

AM S MET 27

AM OUT1 20

AM OUT2 21

AUTO IN 12

IND 13

31

30

28

25

29

AM/FM METER

S1 1/2 B

S1 1/2 F

19mA 25.5V

60mA 13.4V

6V 30mA

STEREO INDICATOR

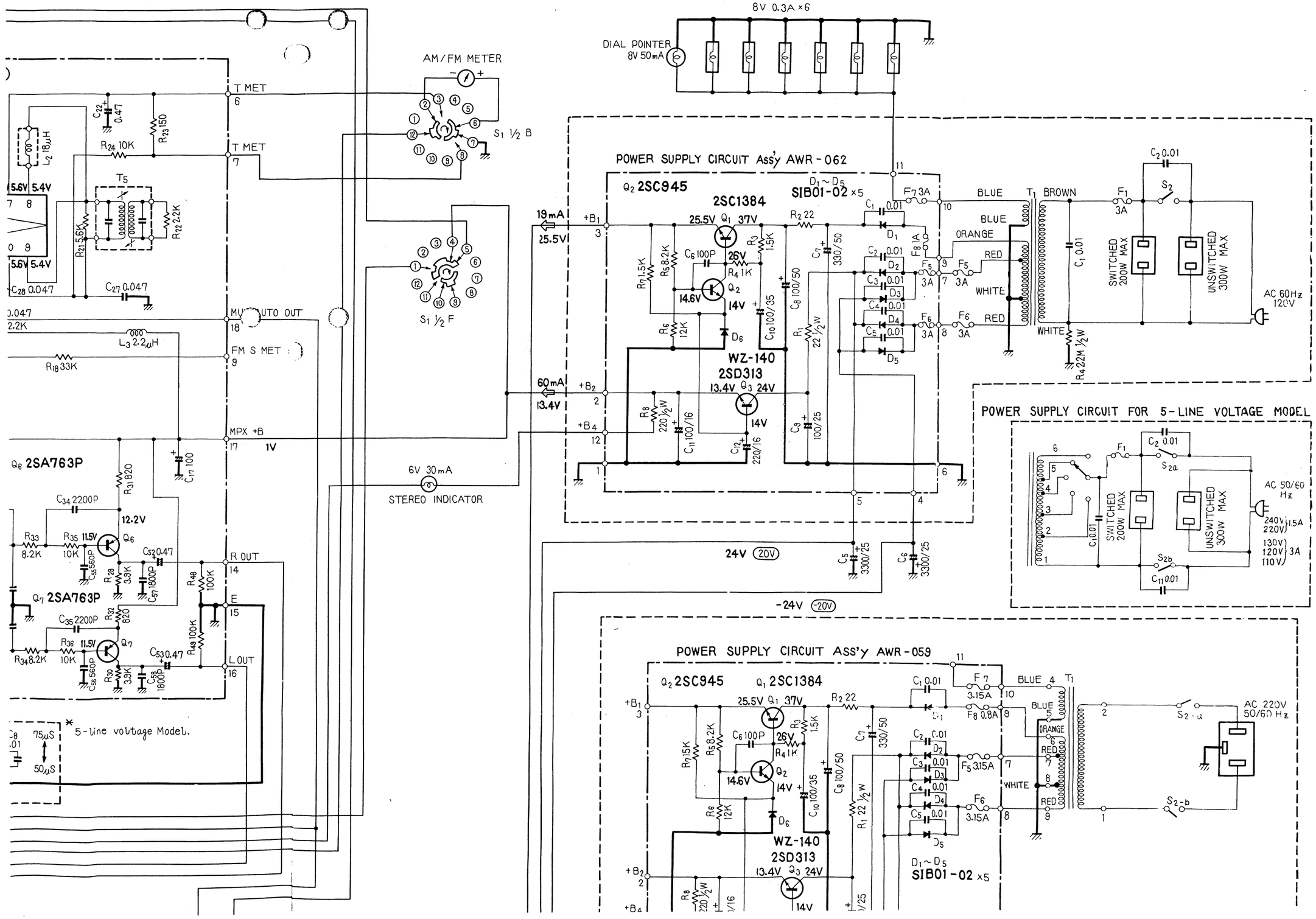
S1 2/2 B

PHONO 2.5mV

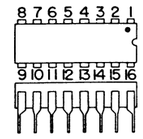
AUX 150mV

L CH

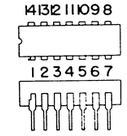
* 5-Line voltage Model.



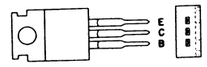
HA1138
HA1137



HA1142



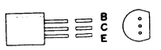
2SD313 2SA489
2SB507 2SC789



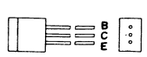
2SC1384

2SC945
2SA720 2SC900
2SA763P 2SC1318

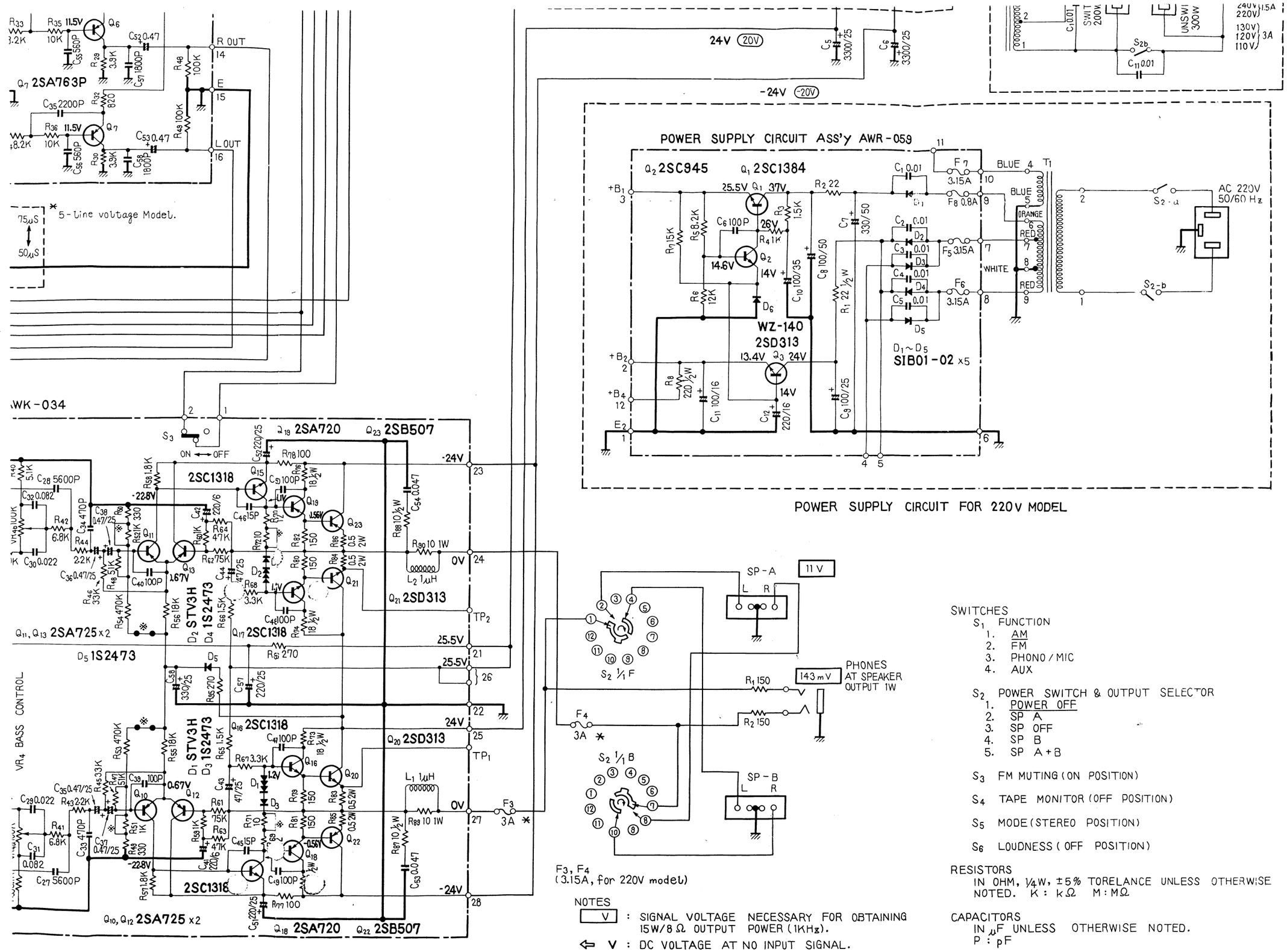
2SA725
2SC1312



2SC1344
2SC535
2SC461



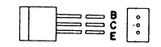
3SK30



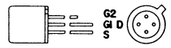
2SA720 2SC900
2SA763P 2SC1318

2SA725
2SC1312

2SC1344
2SC535
2SC461



3SK30



SWITCHES

S_1 FUNCTION
1. AM
2. FM
3. PHONO / MIC
4. AUX

S_2 POWER SWITCH & OUTPUT SELECTOR
1. POWER OFF
2. SP A
3. SP OFF
4. SP B
5. SP A+B

S_3 FM MUTING (ON POSITION)

S_4 TAPE MONITOR (OFF POSITION)

S_5 MODE (STEREO POSITION)

S_6 LOUDNESS (OFF POSITION)

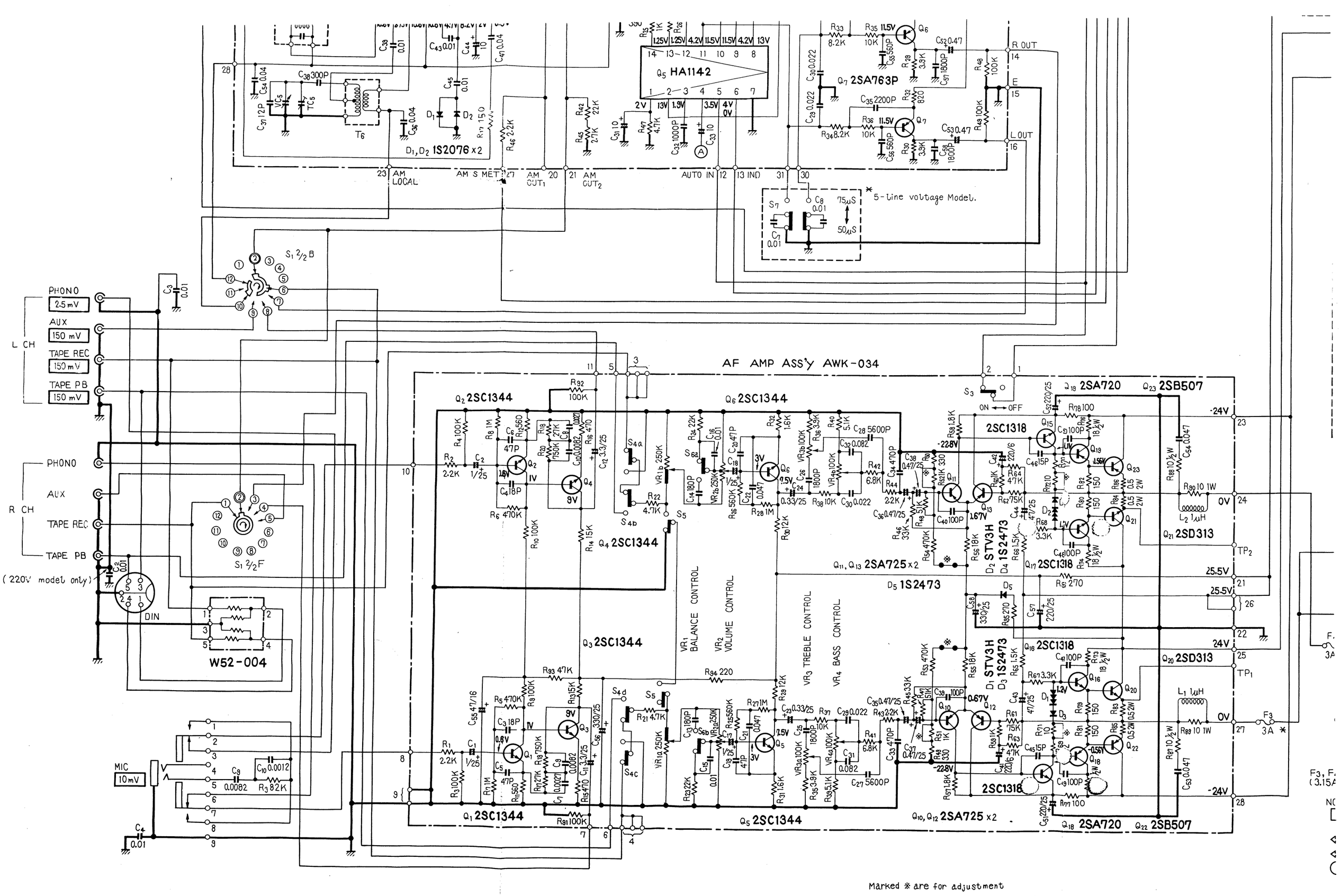
RESISTORS
IN OHM, 1/4W, ±5% TORELANCE UNLESS OTHERWISE NOTED. K : kΩ M : MΩ

CAPACITORS
IN μF UNLESS OTHERWISE NOTED.
P : pF

NOTES
- V : SIGNAL VOLTAGE NECESSARY FOR OBTAINING 15W/8Ω OUTPUT POWER (1KHz).
- ⇦ V : DC VOLTAGE AT NO INPUT SIGNAL.
- ⇦ A : DC CURRENT AT NO INPUT SIGNAL.
- (V) : DC VOLTAGE AT 15W/8Ω OUTPUT POWER.

F3, F4 (3.15A, for 220V model)

Marked * are for adjustment


Q5 HA1142
1.25V 1.25V 4.2V 11.5V 11.5V 4.2V 13V
2V 13V 1.9V 3.5V 4V 0V
D1, D2 1S2076 x2
Q6 2SA763P
Q7 2SA763P
R OUT
L OUT
23 AM LOCAL
AM S METER 27
AM OUT1 20
21 AM OUT2
AUTO IN 12
13 IND 31
30
* 5-line voltage Model.
S1 2/2 B
S1 2/2 F
PHONO 2.5 mV
AUX 150 mV
TAPE REC 150 mV
TAPE PB 150 mV
L CH
R CH
(220V model only)
DIN
W52-004
MIC 10 mV
AF AMP ASS'y AWK-034
Q1 2SC1344
Q2 2SC1344
Q3 2SC1344
Q4 2SC1344
Q5 2SC1344
Q6 2SC1344
VR1 BALANCE CONTROL
VR2 VOLUME CONTROL
VR3 TREBLE CONTROL
VR4 BASS CONTROL
Q10, Q12 2SA725 x2
Q11, Q13 2SA725 x2
D5 1S2473
D1 STV3H
D2 1S2473
D3 1S2473
D4 1S2473
2SC1318
Q16 2SC1318
Q17 2SC1318
Q18 2SA720
Q19 2SA720
Q20 2SD313
Q21 2SD313
Q22 2SB507
Q23 2SB507
ON ↔ OFF
-24V
-22.8V
25.5V
24V
0V
TP1
TP2
3A *
Marked * are for adjustment